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Review the Legal Side and Reform the Institutional Framework of Water Sector in Palestine

M. Sc. Thesis

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Abstract

The main objective of water resources management is to secure adequate quantity of good quality water in equitable manner. This could be achieved through a proper institutional management and participation of all stakeholders. The water management process in Palestine started since 1995-1996 by establishing Palestine Water authority (PWA) as water sector regulator and still ongoing up to date. In this study, various regional and international institutional configurations were reviewed and how those entities managed the sector.

The state of problem in this thesis divided into two main parts the legal part and the institutional framework of the sector. Adaptive methodology was used through reviewing and comparing the four main laws (Water Law, Environmental Law, Agricultural Law and Public Health Law) together, and the institutional framework was restructured based on duties of each competent agency stated in laws, the principles of the Integrated Water Resources Management (IWRM) and the concepts of the Management and Transnet Framework (MTF). And to enhance the proposed ideas, interviews with the main stakeholders were done with filling a questioner contains direct questions about the legal and institutional framework of the sector.

This study was based on presumption that PWA, Environment Quality Authority (EQA), Ministry of Agriculture (MoA) and Ministry of Health (MoH) are the main competent agencies for regulating and monitoring of water and waste-water sector at the legal level and there are no discrepancies of stating their responsibilities in laws and these agencies shall cooperate and coordinate in between to achieve purposes of these laws as clear in laws. However it was found that there is no practical willingness for cooperation and information sharing among these agencies. In addition, the study identified that the NWC is currently the link between the regulator (PWA) and the decision makers at the political level represented by PLC and the Council of Ministers. But its current structure is the main reason for its malfunctioning to serve water sector. So that, two main solutions were proposed either by reform the current structure or resolving the NWC then PWA has a direct contact with the political level. This study found that, the current legal references of water management represented, by the national four laws: Water Law, the Environmental Law, the Agricultural Law and the Public Health Law. These laws shared the same concept about violations and sanctions regarding any actions against water sources. The integration among these laws represented by practical coordination mechanisms between these agencies as referred in laws. But the coordination mechanisms were not clarified well in articles of laws. The direct and indirect responsibilities and duties of these agencies were identified in the above mentioned laws and summarized in this study. In addition to clearance of duties, all laws insured that the provisions of each law shall be applied without any contradictories with other articles in the same law or other relevant laws.

In addition, it was found that the multi-level regime was used since the beginning of the first attempts of water sector institutional reform process in Palestine. The current

institutional framework composed of three levels. In this study two options were proposed to reform the institutional framework. The first one representing a modification of the current institutional framework with filling the gaps and the other one is a new proposed framework with new proposing agencies aimed to decrease the discrepancies between these agencies. Each level occupied by various agencies based on their duties stated in laws or basic laws. The first option has four levels. At the political level, three current institutions were found: PLC is the legislative authority and these laws shall be executed through the Council of Minister which is the executive authority and the NWC is the direct link between the council of Ministers and the regulator of water sector and recommend for the council any regulations suitable for enforcement water law. The legal level was occupied by the ministries and authorities. At the operation level, a new utility was proposed only for managing the non-conventional water sources. At the service level, there are three current service providers: the 25 municipalities, CMWU as CCS for these municipalities and UNRW also considered as service provider for service in eight refugee camps in Gaza Strip. The second option has fewer institutes for more clearance of duties and less practical discrepancies. The policy and regulation level which occupied by the policymaking institute the Council of Ministers the executive authority, a new proposed ministry called Ministry of Nature & Environment (MoNE) which is a combination between three existing institutes (PWA, MoA & EQA/PEnA) which is the regulator of water and waste-water sub-sector in addition to other sub-sectors. This ministry has three main directorates (Water sources Directorate, Agriculture and Irrigation Directorate & Environment Directorate). In addition to other three main competent agencies which are MoH, MoLG & MoF. At the Operational, Supply & Service Provider Level, the bulk water utility was proposed as the national utility to operate sector assets and supply bulk water to the regional entities; CMWU is the main service provider which shall be re-established as regional utility instead of its current shape as CCS according to the provisions of water law. The 25 municipality in Gaza Strip and UNRWA as service provider in the eight refugee camps shall be represented through the five regional office of CMWU. The second option is more preferable for better management.

For more comprehensive institutional framework, Private Sector Participation (PSP) was considered during the restructuring procedures. Different types of Public Private Partnership (PPP) contracts were recommended since the private sector was proposed to be part of the lowest two levels. At the operational and supply level, the delegation PSP type was chosen and the BOT contract was proposed for water treatment, and the concession contract for waste-water treatment. At the same level, the delegation and corporate PSP types and the concession & management contracts were selected for the operation of domestic facilities & supply to municipalities. But at the service level, the management and service contracts were proposed under the corporate & administrative contracts type for service providing to consumers. The legal side of PSP in sector management was guaranteed by the national laws mainly water law, Basic Laws and its amendments and the Local Organizations Law No. 1/1997 supporting the PSP in the management process of the sector.

الخلاصة

إن الهدف الأساسي من إدارة مصادر المياه هي تأمين كميات مياه مناسبة بجودة جيدة بطريقة متساوية، وهذا يمكن تحقيقه من خلال تنظيم مؤسساتي مناسب يشمل مشاركة كل أصحاب القرار. بدأت عملية إدارة قطاع المياه في الأراضي الفلسطينية المحتلة منذ عام 1995-1996 بعد إنشاء سلطة المياه الفلسطينية كمنظم لقطاع المياه وتستمر عملية تنظيم إدارة قطاع المياه حتى الآن. شملت هذه الدراسة مراجعة مجموعة مختلفة من التنظيمات المؤسساتية الإقليمية والدولية لإدارة قطاع المياه وكيف تدير هذه التنظيمات قطاع المياه.

إن المشكلة التي تناولتها هذه الدراسة تنقسم إلى قسمين وهما القسم القانوني والإطار التنظيمي لإدارة القطاع. حيث تم استخدام آلية بحث منظمة شملت مراجعة القوانين الأساسية الأربعة وهي (قانون المياه و قانون البيئة و قانون الزراعة وقانون الصحة العامة) ومقارنتها من بعضها البعض، وتم إعادة بناء الإطار التنظيمي بناء على مهام كل مؤسسة حسب ما نصت عليه القوانين و بناء على مبادئ إدارة مصادر المياه المشتركة وعلى أسس الإطار الإداري والإنتقالي. ولتعزيز الأفكار المطروحة في الدراسة فقد تم عمل مقابلات مع أصحاب القرار حيث شملت المقابلات تعبئة استبيان يحتوي على اسئلة حول الإطار القانوني والمؤسساتي للقطاع.

إعتمدت هذه الدراسة على أن سلطة المياه الفلسطينية و سلطة جودة البيئة و وزارة الزراعة ووزارة الصحة يعتبروا المؤسسات ذات العلاقة والأقرب لتنظيم ومراقبة قطاع المياه والصرف الصحي على المستوى التنظيمي وانه لا يوجد خلافات في صياغة صلاحيات هذه المؤسسات في القوانين، كما وأنه يجد على هذه المؤسسات التعاون والتنسيق فيما بينهم لتحقيق الهدف من هذه القوانين كما هو واضح ومنصوص عليه في هذه القوانين. ولكن وجد أنه لا يوجد استعداد عملي للتنسيق والتعاون بما فيها مشاركة المعلومات فيما بينهم. كما ووضحت هذه الدراسة على أن مجلس المياه الفلسطيني هو الرابط بين سلطة المياه الفلسطينية وصانعي القرار على المستوى السياسي وهم المجلس التشريعي الفلسطيني ومجلس الوزراء الفلسطيني. ولكن التكوين الحالي لمجلس المياه الفلسطيني هو السبب الرئيسي لعدم قيامه بمهامه في خدمة قطاع المياه والصرف الصحي. لذلك تم اقتراح إما إعادة التنظيم الهيكلي لتكوين المجلس او حل المجلس وبذلك تصبح سلطة المياه الفلسطينية على تواصل مباشر مع المستوى السياسي.

أوجدت هذه الدراسة أن المراجع القانونية لإدارة قطاع المياه تعتمد على أربعة قوانين رئيسية وهي قانون المياه وقانون البيئة وقانون الزراعة وقانون الصحة العامة، حيث تشاركت هذه القوانين الأربعة نفس المفهوم في المخالفات والعقوبات. إن التكامل بين هذه القوانين يتم من خلال التنسيق العملي بين المؤسسات ذات العلاقة كما هو مشار اليه في القوانين. ولكن لم يتم توضيح وتفصيل طبيعة آليات التنسيق في القوانين. وكنتيجة من دراسة هذه القوانين فقد تم تحديد وتلخيص المسؤوليات والمهام المباشرة وغير المباشرة في هذه الدراسة. بالإضافة الى أن كل القوانين أكدت على أنه يجب تطبيق كل القوانين بدون مخالفات بين نصوص المواد المذكورة في القوانين ذات العلاقة.

بالإضافة لذلك، فإنه وجد أن نظام المستويات المتعددة تم استخدامه منذ المحاولات الأولى لإعادة تشكيل الإطار المؤسساتي لقطاع المياه وهو يتكون حالياً من ثلاث مستويات. في هذه الدراسة تم طرح اقتراحين للإطار المؤسساتي لإدارة قطاع المياه. الخيار الأول يشمل على تطوير الإطار القائم من خلال سد الثغرات الموجودة والخيار الثاني عبارة عن اقتراح يحتوي على عدد مؤسسات أقل وذلك لتقليل الخلافات العملية بين هذه المؤسسات، حيث أن كل مستوى يشغله مجموعة من المؤسسات المختلفة حسب صلاحيات كل مؤسسة كما هو منصوص في القوانين أو الأنظمة الداخلية.

يحتوي الخيار الأول على أربعة مستويات. أما على المستوى السياسي فقد وجد أن المجلس التشريعي الفلسطيني هو السلطة التشريعية للقوانين والتي يتم تنفيذها من خلال السلطة التنفيذية وهي مجلس الوزراء وأن مجلس المياه الفلسطيني هو الصلة المباشرة بين السلطة التنفيذية وهي مجلس الوزراء وبين المنظم لقطاع المياه وهو سلطة المياه

الفلسطينية وهو يقترح لمجلس الوزراء أي قوانين وأنظمة لها علاقة بقطاع المياه. أما الوزارات والسلطات فقد شغلت المستوى التنظيمي. ولكن على المستوى التشغيلي فقد تم اقتراح مصلحة مياه وطنية لها علاقة بإدارة مصادر المياه غير التقليدية وتزود المنتجات من هذه المصادر الى المستوى الخدماتي والذي يشغله 25 بلدية ومصلحة مياه بلديات الساحل و الأونورا كمزود خدمات في المخيمات الفلسطينية الثمانية في قطاع غزة.

أما الخيار الثاني، فقد احتوي على عدد مستويات وعدد مؤسسات أقل وذلك لتسهيل وتوضيح مهام المؤسسات وتقليل الخلافات العملية بين هذه المؤسسات. أما المستوى الأول وهو المستوى السياسي والتنظيمي فقد اشتمل على صانع القرار السياسي وهو مجلس الوزراء وهو يعتبر السلطة التنفيذية بالإضافة الى وزارة مقترحة جديدة وهي وزارة البيئة والطبيعة والتي نتجت من خلال دمج مجموعة من المؤسسات القائمة وهي (سلطة المياه الفلسطينية، وزارة الزراعة، ووزارة البيئة / سلطة جودة البيئة) وهي تعتبر المنظم لمياه القطاع بالإضافة الى قطاعات أخرى. تحتوي الوزارة على ثلاثة ادارات رئيسية وهي: إدارة مصادر المياه و إدارة الزراعة والري وإدارة البيئة. بالإضافة لذلك، فقد اشتمل هذا المستوى على ثلاث وزارة رئيسية وهي وزارة الصحة ووزارة الحكم المحلي ووزارة المالية. أما المستوى التشغيلي والتزويدي والخدماتي فقد اشتمل على مصلحة تزويد المياه بالجملة وهي تعمل على تشغيل مرافق القطاع و تزويد الخدمة الى الجهات المحلية و مصلحة مياه بلديات الساحل وهي مزود الخدمات الرئيسي والتي يجب أن يعاد تشكيلها كمصلحة مياه اقليمية بدلا من مجلس خدمات مشترك للبلديات. في نفس المستوى يتم تمثيل ال 25 بلدية ووكالة غوث وتشغيل اللاجئين التي تزود الخدمات في مخيمات اللاجئين الثمانية في قطاع غزة من خلال المكاتب الإقليمية لمصلحة مياه بلديات الساحل في المحافظات الخمسة في قطاع غزة. ويعتبر الخيار الثاني هو الخيار الأفضل والأكثر تشجيعا لإدارة القطاع.

ولكي يكون الإطار المؤسسي أكثر تكاملية وشمول، فقد تم اعتبار مشاركة القطاع الخاص خلال عملية إعادة تشكيل الإطار المؤسسي. وقد تم اقتراح أشكال مختلفة لعقود الشراكة بين القطاع الخاص والعام في المستويين الأخيرين وهما المستوى التشغيلي والمستوى الخدماتي. حيث تم اقتراح على المستوى التشغيلي نوع المشاركة بالتحويل وتم اختيار عقد بناء-تشغيل-نقل لمعالجة مياه الشرب وتم اقتراح عقد الإمتياز أو الحق الممنوح لمعالجة المياه العادمة. وعلى نفس المتوى فقد تم اقتراح عقد التحويل والتعاون وعقود الامتياز والادارة لتشغيل المنشآت المحلية والتزويد للبلديات أو المصلحة. ولكن على المستوى الخدماتي فقد تم اقتراح عقود الشراكة الإدارية لتزويد الخدمات للمستهلكين. كما وبين هذا الجزء من الدراسة أن القوانين الحالية وخصوصا قانون المياه والقانون الأساسي وملحقاته وقانون الهيئات المحلية أنها تدعم مشاركة القطاع الخاص في عملية إدارة القطاع الخاص.

Dedication

To my

Father, Mother, Sisters, Brothers,

Lovely Wife,,,

and

My friends & colleagues ...

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*Thanks first and foremost to **ALLAH** for his guidance without it I did not achieved what I have at this moment.*

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List of Acronyms and Abbreviations

BOT	<i>Build-Operate-Transfer</i>
CCS	<i>Common Council of Services</i>
CMWU	<i>Costal Municipalities Water Utility</i>
EQA	<i>Environmental Quality Authority</i>
EU WFD	<i>EU Water Framework Directive</i>
GIS	<i>Geographic Information System</i>
GWG	<i>Good Water Governance</i>
HH	<i>Household</i>
I/NGO	<i>International/ Non-Governmental Organizations</i>
ICFW	<i>Conference on Freshwater</i>
IPD	<i>Infrastructure Planning Directorate</i>
IWRM	<i>Integrated Water Resources Management</i>
IWSR	<i>Institutional Water Sector Review</i>
JSC	<i>Joint Service Committees</i>
JSC	<i>Joint Service Councils</i>
LAU	<i>Local Authority Units</i>
LGU	<i>Local Government Units</i>
MOA	<i>Ministry of Agriculture</i>
MoF	<i>Ministry of Finance</i>
MoH	<i>Ministry of Health</i>
MoI	<i>Ministry of Industry</i>
MoJ	<i>Ministry of Justice</i>
MOLG	<i>Ministry of Local Government</i>
MonE	<i>Ministry of National Economy</i>
MoNE	<i>Ministry of Nature and Environment</i>
MoPAD	<i>Ministry Of Planning And Administrative Development</i>
MoPW	<i>Ministry of Public Works</i>
MTF	<i>Management and Transition Framework</i>
NWC	<i>National Water Council</i>

O&M	<i>Operation and Maintenance</i>
PA	<i>Palestinian Authority</i>
PEA	<i>Palestinian Energy Authority</i>
PEnA	<i>Ministry of Environmental Affairs</i>
PENRA	<i>Palestinian Energy And Natural Resources Authority</i>
PLA	<i>Palestinian Land Authority</i>
PLC	<i>Palestinian Legislative Council</i>
PPP	<i>Public-Private Partnership</i>
PSP	<i>Private Sector Participation</i>
PWA	<i>Palestinian Water Authority</i>
TPAT	<i>Technical, Planning And Advisory Project</i>
UNDP	<i>United Nation Development Program</i>
UNRWA	<i>United Nation For Refugee Working Agency</i>
UPP	<i>Understanding Privatization Policy</i>
WBWD	<i>West Bank Water Departments</i>
WFD	<i>Water Framework Directive</i>
WUAs	<i>Water User Associations</i>
WWF	<i>World Water Forum,</i>
IUG	<i>Islamic University Of Gaza</i>

1. Introduction

1.1. General Background

The sustainable management of water resources in times of global change is one of the most pressing challenges of the 21st century (Pahl-Wostl C., et. al. 2010). Globally freshwater resources are not (yet) scarce (Pahl-Wostl C., et. al. 2010). However, their unequal distribution at different scales (among world regions, countries and even different social groups) can provide multiple sources of tension (Pahl-Wostl C., et. al. 2010). Many problems in water management are more associated with governance failures than with the resource base and require major reforms in water governance taking into account the different and related factors (Pahl-Wostl C., et. al. 2010).

The main objective of water resources management is to secure and provide adequate quantity of good quality water in equitable manner for all social, economic and environmental needs to insure the sustainability of the national water resources to cover the different water needs for the future generation (Mari A., et. al, 2003).

The deteriorating condition of the water sector infrastructure and the increased need for water are the main drives for the infrastructural, legislative and institutional development in the Palestinian water sector.

Institutional management and participation of all stakeholders is essential to achieve the successful protection, use, development, conservation, management, and control of the national water resources (Junier S., M., 2011).

The formation of the water sector in Palestine started since establishing a separate body for the water and wastewater sectors which is the Palestinian Water Authority (PWA) in 1995-1996 and drafting the water law in 2002 (HYDROSULT Inc., at. el 2011). In addition to establishing other bodies integrated with the water sector as the Ministry of Environmental Affairs (PEnA) which recognized later on as Environmental Quality authority (EQA) and drafting the Environmental Law in 1999, and the other competent agencies (HYDROSULT Inc., et. al 2011).

At the service level; the municipalities are the main players as customer service with a direct contact with the consumers at the communities. Recently, the Coastal Municipalities Water Utility (CMWU) was established as the service provider which shall include the water and wastewater department from all the municipalities in the southern governorates of Gaza Strip.

Other bodies integrated in water sources management at the national level classified according to the existing three different levels (Political, Regulatory, & Operational).

Now, to insure the appropriate integrated water resources management (IWRM) for the national conventional or non-conventional water sources, high & strong levels of coordination between the direct or indirect agencies should be very comprehensible at the different three levels (Political, Regulatory, & Operational). Strong levels of coordination should surface as result of the clear responsibilities and duties for each agency. The weak current situation of water and wastewater sector is a direct result of the scattered institutional responsibilities. Occupation and closures imposed on the strip by Israel plays a negative role in water and wastewater management by destruction of water and wastewater facilities and reduces the powers of various responsible institutions.

All over and above, contributes directly in insufficient level of services for the Palestinian citizens in the occupied territories in general and specific in Gaza Strip.

Within this research, various regional and international current institutional arrangements for the water sector management will be viewed. It is known that, there is no single best institutional model to satisfy all situations. Institutional requirements for water management vary depending on a number of environmental conditions, which are mainly determined by the stage of development of the country's water sector. Institutions evolve depending on the water-related issues that the sector faces, as the water resources are gradually developed and utilized. Thus, effective water sector institutions are basically demand driven.

This study will revise the national laws with relation to the water & waste-water sector mainly Water Law, Environmental Law, Agricultural Law and the Public Health Law, in order to identify the legal reference for duties for each one of the main competent agencies in the sector management. In addition to identify the legal reference of the regional utilities establishment for managing of the desalination and reuse sub-sectors in the institutional arrangement of water sector management.

These objectives will be done within a specific period of time, and according to a specific methodology including the collection and analysis any required data and based on the concepts and principles of Integrated Water Resources Management (IWRM) within the Management and Transition Framework (MTF), or any other supportive approaches or frameworks.

1.2. Statement of the Problem

The current status of the water sector in Palestine is a direct outcome of the terms and conditions determined by the Oslo II Interim Agreement of 1995 and the occupation and closures imposed on the Palestinian territories by Israel. The problems of the water sector at the current statuses will be divided into three main categories as follows:

1.2.1. Water Sources

The water source in Palestine is composed of renewable groundwater only (PWA, 2011). Palestine, defined here as the West Bank including East Jerusalem and the Gaza Strip. The Birzeit Strategic Studies Forum (2013) and (Issac J. W., 2005) insured that Palestine occupies a unique status from a hydrological point of view, where the West Bank is located in the upstream portion of the Limestone Groundwater Aquifer System and in the downstream of the Jordan River Basin while Gaza Strip is located in the downstream portion of the Coastal Groundwater Aquifer System. Severe water shortages and acute water quality problems continue to negatively affect the lives and livelihoods of millions of Palestinians living in the West Bank and Gaza Strip (PWA, 2012). Rolling water shortages across the occupied West Bank pose the greatest challenge facing the Palestinian water sector. These shortages affect only Palestinians, and have grown more severe over time as a result of the inequitable allocation of the shared freshwater resources located in the West Bank (PWA, 2012). These shortages affect only Palestinians, and have grown more severe over time as a result of the inequitable allocation of the shared freshwater resources located in the West Bank. In particular, Palestinians are denied their rightful share of water from the underground mountain aquifer – comprising the Eastern, North-Eastern and Western basins – and prevented from accessing a single drop of water from the Jordan River (PWA, 2012). In Gaza Strip, the problem is different. Palestinians living in the Gaza Strip are forced to rely on the underlying portion of the Coastal aquifer as their only water supply. With an estimated annual recharge of 55MCM, the aquifer falls far short of the basic water needs of Gaza's 1.6 million residents. Prevented from utilizing any water from Wadi Gaza, and unable to import additional quantities of water, Gaza's population presently extracts almost three times the aquifer's sustainable yearly recharge (PWA, 2012). Massive over-pumping has led to increased saline intrusion as seawater from the adjacent Mediterranean enters and contaminates the aquifer, while the infiltration of raw sewage from sewage collection ponds on the surface further adds to the aquifer's rapid deterioration. At its present rate of deterioration, the United Nations estimates that the underlying portion of the coastal aquifer on which the Gaza Strip relies for all its water needs will be unusable by 2016, and irreversibly damaged by 2020 (PWA, 2012).

So, water sources a crises in Palestine is divided into two main sides, access denied for the fresh water inside the green line and the deterioration of the groundwater in Gaza Strip.

1.2.2. Legal Side

The legal side of the problem can be summarized by the following points:

- ✓ Differences between the articles of laws related to the water sector as (Environment Law, Water Law, Agriculture Law, & Public Health Law).
- ✓ Some articles inside the Palestinian water and environmental laws are not detailed which weakening the enforcement of these laws and policies. As example (Water law 3/2002 - article 32; & Environmental law - article 68).
- ✓ No articles were stated to figure out the relation between the service providers and the different national leaders mainly PWA, EQA, and MoA.
- ✓ The impact of the historical legislation on Palestinian water resources, management and rights is complex, restrictions and has often reflected the interests of these external powers with little concern for the long-term strategic water needs of the ruled population and never served as a platform for the development of Palestine. The most significant restrictions came during the Israeli occupation, whose impact remains operative to the present day.

1.2.3. Institutional Framework

From the institutional perspective, the problems can be summarized by the following points:

- ✓ The lack of clear institutional mandates has contributed to a situation of ineffective governance and weak capacity in the Palestinian water sector, which combined with occupation-related restricting factors, impairs the development of adequate policies and strategies for water resources management, infrastructure development and service provision “PWA, 2010”.
- ✓ Willingness to coordinate between the above mentioned national leaders, which is often very low due to a high interest in securing personal mandate and power; the same applies for the willingness to share information and formal results of development projects.
- ✓ In addition, coordination mechanisms and mechanisms to ensure proper administration of justice, law enforcement, and accountability are often missing, a situation which is fostered by a delayed state building itself.
- ✓ One of the main obstacles in the current water law no.3/2002 is the NWC. As known, the NWC met once in March 2006, and has not met since its establishing in 2002. The formation of the NWC made high level of difficulties to hold regular meeting

once each six months as stated in article 10 – water law no. 3/2002, since the meeting should be led by the NWC Chairman which is The Chairman of the Palestinian Authority and at least eight of the members must be present including the Chairman of the Council or the vice-chairman for the validity of the meeting. Furthermore, in the absence of a functional NWC, the sector is lacking strategic guidance in the form of a politically sanctioned policy or strategy.

- ✓ Unregulated and sometimes unjustified funding that comes through I/NGOs without coordination with the related authorities, which does not comply with national plans considered reason of delay the technical developing of the water and wastewater sectors.
- ✓ Up to now, reuse, desalination and storm-water harvesting sub-sectors are not managed well as separate non-conventional water sources used for different purposes especially with the current challenges the strip faced due to deterioration of the only available water source (the groundwater) and the increased need for such non-conventional water sources especially with the huge quantities of treated waste-water disposed directly to the sea which could be used for irrigation or infiltration as groundwater recovery system.

1.3. Objectives

The objectives from this research will be divided into two main categories identified as follow:

1.3.1. Review of the Legal Side of Water Sector

- ✓ Comparison between the laws related to water sector to identify the contradictions among these laws.
- ✓ Identifying the responsibilities and duties of the competent agencies as stated in the provisions of the specialized laws.

1.3.2. Reform of the Institutional Framework of Water Sector

- ✓ Based on the principles of the IWRM approach and according to the concepts of the MTF, the institutional framework of the water sector will be restructured and new organizations will be proposed,

1.4. Methodology

1. Studying and analysing the current Palestinian laws, the bases of these laws, and the bases of the current structure of water sector.

2. Studying and understanding the current laws related to water sector at the regional and international levels in order to be as guidelines during drafting solutions for the above presented problems.
3. Using the principles of the water governance within the IWRM approach for restructuring of the current framework of water sector management.
4. Using the principles of the Management and Transition Framework (MTF) for restructuring of the current framework of water sector management.
5. Interviews by questions or informal review with:
 - The different and related ministries and governmental bodies.
 - The different and related technical persons and legal advisers.
 - Any related I/National academic sides.
6. Questioners will be prepared with the related questions and would be distributed and filled by the different related sides. This questioner will include questions about the current situation of water sector and about the proposed structure.

2. Literature Review

2.1. Historical Background of Water Law

Throughout recent history of Palestine, various governments and occupying forces have administered the Palestine Both the West Bank and Gaza Strip have been under the jurisdiction of a number of rulers (Husseini H., 2004).

The West Bank and Gaza Strip do not form a singular geographical unit and were, at times, also separate legal units. Both areas were under the Ottoman Rule until the end of World War I. In the course of an extensive legislative process, which took place during the reign of Sultan Abed El-Majid in the second half of the 19th century Pre-1918 based on the Islamic laws, two important laws containing rules relating to water were enacted (Husseini H., 2004):

- The 1858 Ottoman Law on Land: The law provides that “In disputes as to the rights of watering crops and animals of irrigation and over water channels”.
- The 1870 Ottoman Civil Code: Provides that “Water, grass and fire are property not owned by any one person but owned jointly by all members of mankind. Groundwater is also considered ownerless and, likewise, public wells were not dug by any known person are (ownerless) property of all people.

After the World War I, Palestine fell under British Military Rule (1918-1920), then under a British Civil Administration (1920-1922) and subsequently became part of the British Mandate proclaimed by the League of Nations in 1922. British Mandatory Law in Palestine (1922-1948) - Article 46 of the 1922 King's Order in Council proclaimed has two main articles in relation to managing the water resources (Husseini H., 2004).

- Ordinance No.6/1936 targeted the municipal services (sewerage, drainage, and water) shall supplied properly to the residents.
- Ordinance No.20/1938 enhanced the authority role to manage the water resources and identify the public water need.

The two areas (Gaza Strip & West Bank) were separated in May 1948 after the termination of the British Mandate and the establishment of the State of Israel. Following the 1948 War, Gaza Strip had become under Egyptian Military Rule but was not considered as part of Egypt. So, the Egyptian law was not applied in Gaza Strip (Husseini H., 2004).

After the 1967 War, Gaza Strip came under Israeli Military Rule. In the course of the 1948 War, the West Bank had become initially under the Jordanian Military Rule and was

subsequently formally incorporated in the Hashemite Kingdom of Jordan in 1950. In this period the Jordanian water laws were applied in the West Bank as example: “Water Control Law No.31/1953 which controlled the irrigation side, Municipalities Law No.29/1955 which control the municipalities’ power and its responsibilities, and Law No.9/1966 on the Organization of Matters of Drinking Water in the Jerusalem District” (Husseini H., 2004).

Following the 1967 War the West Bank was governed by an Israeli Military Commander as a separate entity from Gaza Strip. From that time and up to 1995 the Military Orders were imposed stringent restrictions on the Palestinians concerning the development of their water resources. After the 1967 war Israel declared all water resources in the region as State Property (Proclamation No.2/1967) which followed by many military orders prohibiting the Palestinians to develop their resources. The Israeli army issued a series of Military Orders seizing control of water and land resources in the Palestine (Husseini H., 2004).

- Military Order 92, issued on 15 August 1967, granted complete authority over all water related issues in the Palestine to the Israeli army.
- Military Order 158 of 19 November 1967 stipulated that Palestinians could not construct any new water installation without first obtaining a permit from the Israeli army and that any water installation or resource built without a permit would be confiscated.
- Military Order 291 of 19 December 1968 annulled all land and water-related arrangements which existed prior to Israel’s occupation of the West Bank.

These and other Israeli Military Orders remain in force today in the Palestine and apply only to Palestinians. They do NOT apply to Israeli settlers in the Palestine, who are subject to Israeli civilian law.

Since the Palestinian Authority (PA) has the control over Gaza Strip & West Bank after 1994; different institutions and authorities were figured out in Palestine as institutional capacity building (Husseini H., 2004). For the water sector, a lead governmental institution for managing the water and wastewater sector in Palestine, the Palestinian Water Authority (PWA) - was established beginning by the Presidential Decree No. 90-1995, officially by Law No. 2-1996, and stated in Water Law No. 3/2002 article (6) as the water regulator and policy making body and its duties were drawn out in Water Law No. 3/2002 article (7).

The National Water Council (NWC) is supposedly the policy making body and it is the high level cross-ministerial and stakeholder forum and considered as the link between PWA and cabinet of ministers at the regularity level. NWC was established by Water Law No. 3/2002 article (8) and its duties were drawn out in the same law article (9).

The Cabinet of Ministers has the authority to approve all related bylaws in order to implement the water & environmental laws. All water-related bylaws shall be approved and submitted to the cabinet through the National Water Council. PWA is interacting and coordinating with most of the Palestinian ministries in order to protect, manage, develop, and sustain the national water resources and facilities to cover the needs of the different sectors in addition to the environmental need. One main important objective of this cooperation is to standardize the water according to its use (domestic, drinking, industrial, agricultural, etc...), and the effluent to be used for agricultural uses or to be infiltrated. By this way, the interests of these parties will be considered for strong and comprehensive integrated management system.

Many articles in the Palestinian water law mentioned that full cooperation shall be done by PWA with the other competent agencies according to the need & water use.

2.2. Water Institutions and Their Role in PALESTINE

The Ministry of Local Government (MOLG) is considered one of the ministries and national leaders at the water level which was established in 1994, and aimed to develop the “local government systems in accordance with the political aspirations of the Palestinian people and enhancing the development, decentralization, accountability of local government entities, by establishing a system designed to suit the socio-economic and political situation of the Palestinian people” (Klawitter S., I, 2006). The Local Authority Units (LAU) are directly under the supervision of the MOLG are municipalities, the existing joints and committees in the west bank mainly as Joint Service Committees (JSC), and the other four regional utilities as CMWU in Gaza Strip.

West Bank Water Departments (WBWD) - In charge of the provision of bulk water to the various water service providers in the West Bank. In addition they are still involved in the rehabilitation, extension and construction of water facilities in the West bank.

Coastal Municipalities Water Utility (CMWU) is one of the regional utilities that was established by ministerial decree by the Minister of Local Government in 30.10.2000 based on article 2 and article 15 paragraph (C) of the Law No.1 for the Year 1997. CMWU was finally shaped by another ministerial decree on 15.1.2005 which includes the duties and goals of CMWU to manage the water and wastewater services in all municipalities, rural councils and project committees in the Southern Governorates (Gaza Strip) of O.P.T.

Ministry of Environmental Affairs (PEnA) has the responsibility to regulate and monitor all the environmental issues. PEnA was established by president decree on December 1996, aimed to develop regulations, policies, and developing & monitoring plans

for all environmental components in cooperation with the relevant entities according to the environmental law mainly in part II, Ch.3, Water Environment, Articles 28, 29, 30, and generally according to other articles as in part IV, ch.2, licensing, ch.3, Inspection and Administrative Procedures. PEnA later recognized as Environmental Quality Authority (EQA) which has the responsibilities to draft policies, strategies, and criteria to ensure ecological and environmental development including the national water sources.

Ministry of Agriculture (MOA) is the responsible of managing the required amount of water for irrigation purposes at the water use side. Bearing in mind that the required amounts of water for the different agricultural activities are almost the same amount required for the different domestic purposes in Gaza Strip according to recent statistics done by PWA. In addition to that, it is very important to monitor the several types of fertilizers used for the different agricultural activities and crops to prevent pollution of the groundwater aquifer. Managing and protecting the different water sources is the main task of MOA in coordination with all different and related bodies.

In addition to the above mentioned institutions, there are many other related ministries playing indirect role in managing the water and wastewater sector for the different purposes and activities. **Table (2.1)**, below highlights briefly the duties of each ministry in relation with water and wastewater sector management.

Table 2.1: Duties for the secondary ministry in relation with water and waste-water sector management.

Ministries	Duties
Ministry of Public Works (MoPW)	Infrastructure Quality Assurance
Ministry of Health (MoH)	Share the responsibility in drafting Domestic Water Quality Standards
Ministry of National Economy (MoNE)	Share the responsibility of drafting Standards of Water uses for Industrial Purposes
Ministry of Finance (MoF)	Regulating National budget in general which including the allocated budgets for water, wastewater, and there infrastructures.
Ministry of Justice (MoJ)	The judicial order for Laws and Regulations
Ministry of Planning and Administrative Development (MoPAD)	Planning at the national level.
Ministry of Industry (MoI)	Share the responsibility for drafting effluent standards, reuse of industrial wastewater and public enquiries about industrial water licenses

2.3. Attempts for Institutional Reforms

Recently, few attempts have been carried out, and some are currently going on for managing the institutional framework of water sector in Palestine. Almost all the studies lack the integrated practical solution for mentioned problems. From the academic side, no previous researches figured out the mentioned problems at the national level. I believe no detailed studies carried out targeting the discrepancies between the Palestinian environmental and water laws & the by-laws of the national leading institutions at the different levels.

A Strategy for Water Management in Palestine was later issued by PWA in 1999. Strengthening national policies and regulations, and enforcing water pollution control and protection of water resources, feature among the eight key elements of this Strategy (HYDROSULT Inc., et. al. 2011). This point also appointed as one of the main five strategic goals were derived for the sector plans of 2011 – 2013 which aimed to build on rules of wise the existence of a legal and institutional environment to be able to manage the water sector and insure its prosperity (PWA, 2011).

The first attempt was carried out by PWA as the regulator of the water sector by redrafting the original water law no. 3/2002 in the year of 2006. This attempt was not officially approved by the cabinet of ministers until now. Many modifications have been added to the original water law. Mainly, adding some articles related to the National Bulk Water Utility to replace the West Bank Water Departments (WBWD) and its duties and structure will be figured out by a special by-law from NWC. But, three of the main points that were not modified: the non-detailed articles as article no. 35 - Violations and Sanctions - in the law, the non-systematic situation of the NWC, and no articles were stated to control the relationship between the service provider and the regulator.

Since august 2010 the Technical, Planning and Advisory project (TPAT) has started and will continue until august 2013. This project supposed to have different studies such as “Institutional Water Sector Review (IWSR)” which recommended assessing the current legal framework to identify the gaps, and draft new law and corresponding regulations for water sector. One main additional result will be redrafting the national water plan as the strategy of the water sector. No official results were published up to date (PWA, 2010).

“Interface between PWA & Service Providers” is a recent but not yet finalized study aiming at managing the relations between the service providers in Gaza Strip and PWA as the water regulator. The project aims at strengthening PWA to assume its sector regulatory role. The final report for part one was published on January 2010 presented the procedures and systems needed to manage the interface between PWA and service providers in Palestine. It includes legal arrangement, quality assurance system, performance indicators and training plan. It also includes recommendations on implementing a capacity

development plan for PWA that will meet both the needs for change in the management and procedure at PWA and all service providers.

All of the above mentioned studies and assessments reports considered as supportive tools to protect and improve national water resources in Palestine. Unfortunately, all of the above mentioned studies and assessment reports have no ability or chance to be applied at the ground due to the historical separation between Gaza Strip and West Bank, and the Israeli control over the national water resources in west bank. The recent reason which weakening the implementation of the recommendation from the any of the studies or reports in Gaza Strip mainly is the political conflict after 2007. After that, the council of ministries loss its power to approve any of the recommendation or modifications on the legal framework of the water sector due to the non-regular meeting because of the incompliance of the legal number of the ministries.

All over and above, play a very important role in non-developing the legal framework of the main stakeholders in water sector.

2.4. Basic IWRM Principals and International Experience

For success IWRM, main principles should be considered within the drafting of the laws, policies, and the by-laws.

The Dublin principles are considered the first main thrust for the IWRM at the world. Four main themes inform the principles: environment, economics, social needs, and the role of women, under a paramount goal of sustainability. This specifically considers the relationship between the integrated water management, and any national water law. The following are the four guiding principles for water management in the world.

1. Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment;
2. Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels;
3. Women play a central part in the provision, management, and safeguarding of water;
4. Water has an economic value in all its competing uses, and should be recognized as an economic good;

In March 2000, The Second World Water Forum & Ministerial Conference was held to discuss the urgency of the water crisis and debated the steps required to ensure the sufficiency of clean water for all of us in the future. The key issues raised in the Second World Water Forum are (Muhammad, 2000):

1. **Privatisation:** To achieve water security, water must be everybody's business but on the other hand the government monopoly in water management should not be replaced by a private monopoly.
2. **Changing the full cost for water services:** Users should in fact be charged the full cost of the services with appropriate subsidies made available to the poor.
3. **Right to access:** Water is not only considered essential for human health, it is also desperately needed by millions of poor women and men in rural areas for productive reasons: to grow the family food or generate income. Almost 90 % of our water resources are used for agriculture. Right of land and use of water are key determinates for people's potential to break down the poverty trap.
4. **Participation:** Water can empower people and women in particular, through a participatory process of water management. Participation implies sharing of power, democratic participation of citizens in elaborating or implementing water policies and projects, and in managing water resources.

In December 2001, International Conference on Freshwater took place focusing on water as a key to sustainable development. The conference focused on practical ideas to make the related laws and policies practical. The main Keys are listed below (Muhammad, 2001):

1. The first key is to meet the water security needs of the poor;
2. Decentralization is a key. The local level is where national policy meets community needs;
3. The key to better water outreach is new partnerships;
4. The key to long-term harmony with nature and neighbour is cooperative arrangements at the water basin level, including across waters that touch many shores. For this reason IWRM is needed to bring all water users to the information sharing and decision making tables;
5. The essential keys are stronger, better performing governance arrangements.

From the above main principles, the following concerns should be taken in consideration by the water actors and the decision makers.

1. Optimum use of water resources in a manner that serves the common interest;
2. benefiting individual users, while preventing avoidable harmful impacts;
3. The multiple roles of water actors are recognized;
4. Awareness of the interrelationships of the roles of water actors;
5. The protection of water sources has been a traditional concern of water law. Increasing demand and externalities have strengthened this concern;
6. Preservation of water quality;
7. The promotion of sustainable development of the national water sources;

8. The environmental concerns are considered the basis –on some systems- on which existing water rights can be amended, restricted, or cancelled;
9. Privatisation and public-private participation at freshwater management process;
10. For an effective IWRM it is necessary to develop responsibilities at the lowest appropriate level. Local government, community based organization and private service providers should be responsible for management and operation of water service within the regulatory and authorizing frame.

Based on some of the above principles, The EU Water Framework Directive (EU WFD) was finally adapted on 2000, which include all the related bodies for water management as (The Drinking Water Directive, The Water Framework Directive, and The Urban Waste Water Treatment Directive).

The Water Framework Directive (2000/60/EC; WFD) is one of the most important European water directives since it follows an integrated approach. In the Netherlands, the WFD has been implemented keeping the existing legal, financial and institutional framework intact as much as possible. An advantage of this arrangement is that the setting of objectives, the selection of measures for reaching the objectives and funding are well tuned to each other. Water management in the Netherlands is organised at three administrative levels: national, provincial and local (municipalities and specialised water-boards). **Figure (2.1)** shows the institutional structure for implementing the WFD in the Netherlands (Junier S., E., 2011).

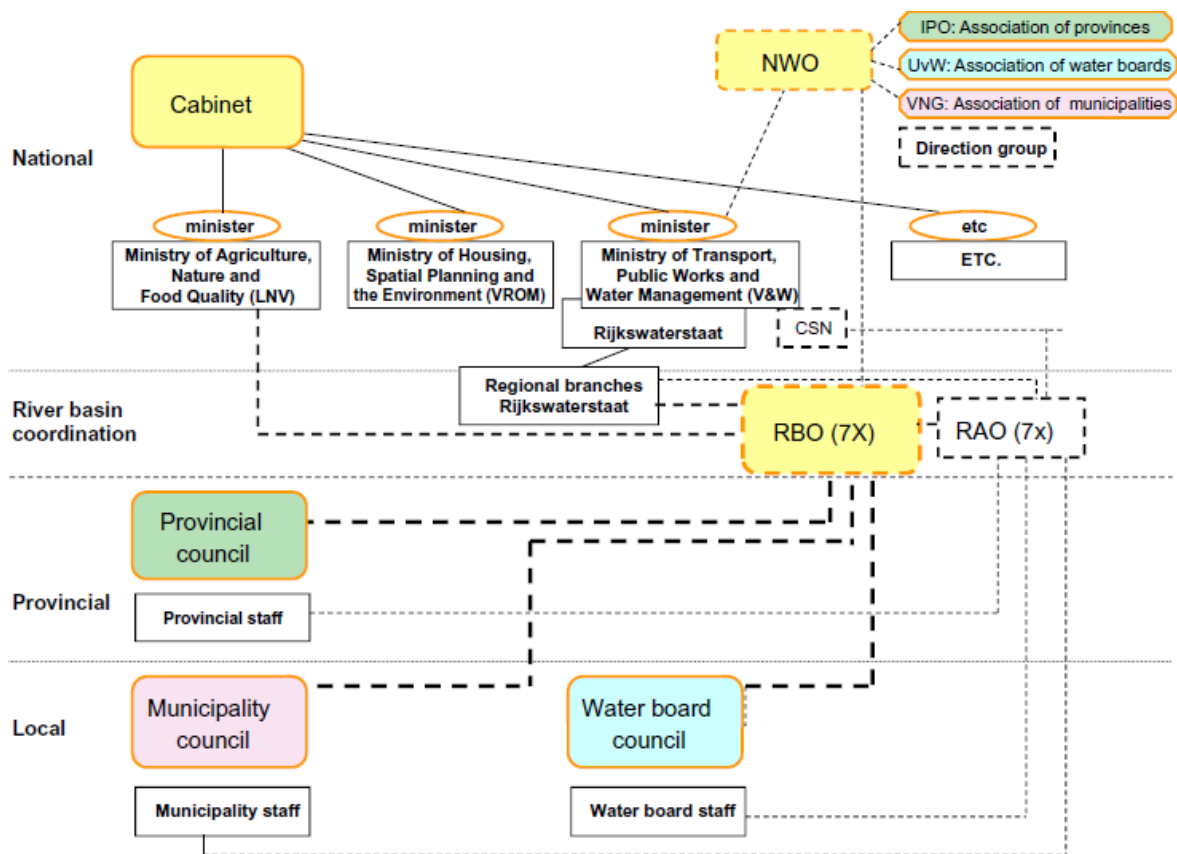


Figure 2.1: The institutional structure for implementing the WFD in the Netherlands (Junier S., E., 2011).

It was found that, the Integration of stakeholders in the implementation process was limited because the highly technical character of WFD. But, it plays a high level in connecting different organisations and individuals, bringing in expertise and supporting learning and innovation.

At the international level, Turkey gave a successful example of managing the different national environmental sources. For the water sources in Turkey, the responsibility for the development, management, protection and conservation of water resources is shouldered by numerous ministries and agencies. The main organizations related with the water management issue and their responsibilities are:

1. **The Ministry of Environment:** The main responsible body for environmental management and charged concerning water resources.
2. **The General Directorate of State Hydraulic Works (SHW):** It is affiliated to the Ministry of Energy and Natural Resources. It is a leading body carrying out most of

subsector activities at all stages of water resources development, and in most cases operates works for irrigation.

3. **The General Directorate of Bank of Provinces:** It is associated to the Ministry of Public Works. The responsibilities are to provide infrastructure projects for municipalities, financing these projects, prepare urban development plans, to provide technical assistance for construction, mapping, selling or renting materials and equipment, insure property and to train the staff of the municipalities.
4. **The General Directorate of Electrical Power Resources Survey:** It is controlled by the Ministry of Energy and Natural Resources and has the responsibility of carrying out hydrological studies, geotechnical investigations and mapping activities to evaluate the national hydroelectric potential and subsequently preparing feasibility and final design studies of identified projects in partnership with SHW.
5. **The Under secretariat of State Planning Organization (SPO) :** Its principal function is to prepare annual investment programs and five years development plans for various sectors of the economy to adjust the national fund for the allocation of the projects and the programs which are under the responsibility of various ministries.
6. **The General Directorate of Rural Services:** It is affiliated to the State Ministry and responsible for irrigation, aquaculture, and water supply issues in the rural areas.
7. In addition, **Water and Sewage Administrations** connected to the Metropolitan Municipalities (15 out of 80 provincial capital municipalities) have taken part in the implementation of pollution control policies, including water supply and construction and operation of wastewater treatment facilities.

Finally, the prevention of water pollution and protection of water resources have been recovered in a high range by the laws of the Environment Act and the Regulation on Water Pollution Control.

The National Water Act (Act No. 36 of 1998) sets the framework for the management of water resources in South Africa (*Department of Water Affairs and Forestry*,). At this frame, the water resources are managed within three levels as follow:

1. The First Level represented by two institutes:
 - 1.1 Minister of Water Affairs and Forestry which is the responsible about the overall responsibility for effective water management.
 - 1.2 Department of Water Affairs and Forestry which is the responsible about the national Water Resource Strategy.
2. The Second Level represented by the Catchment Management Agency which is the responsible about the drafting the Catchment Management Strategy.
3. The Third level represented by the Water User Associations (WUAs) which considered the Local level water-related activities and have the responsibility to

enable people within a community by addressing their local needs and priorities. The WAUs are managed by A management committee.

Other main body is integrated to the above three is the International Water Management Body which has the responsibility to implement international agreements in terms of the management and development of water resources shared with neighbouring countries and regional co-operation over water resources.

The institutional and legal arrangements in England and Wales (UK) are the same. In the UK there is no ownership of water; however, there is a right to use water. The system in England and Wales is unique (Zabel T., R., 1999). The water sector management in UK is based on the following principles:

- A strong central framework with national regulators, Environment Agency, Drinking Water Inspectorate (DWI), Office of Water Services (OFWAT);
- Limited power or responsibility for Local Authorities;
- Integrated catchment-based water management (but less strong links between land-use);
- Integrated environmental protection/licensing;
- Clear separation between the regulators and the regulated;
- Cost recovery by regulators.

The centralised system in UK, allows policies, legislation and regulation to be coordinated at the national level and help to ensure a level playing field by minimising the effects of local political pressures.

The water sector in UK is managed within three current levels: (Central Level, Regional Level, & Local Level). **Figure (2.2)** summarizing the current institutional arrangements for water management in the UK.

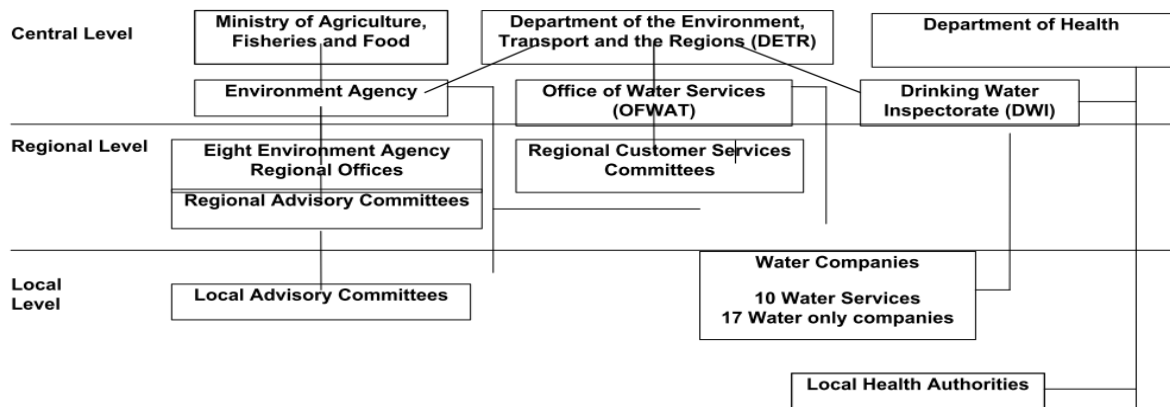


Figure 2.2: The current institutional arrangement for water management in UK (Zabel T., R., 1999).

In Vietnam, the water sector is managed within three levels. At the governance level, Government carrying out unified state management on water resources. The ministerial level, Ministries implementing state management on water resources according to assignments given by the Government as (Ministry of Natural Resources and Environment, Ministry of Agriculture and Rural Development, etc...). At the local level, people's committees being responsible for state management on water resources within their localities (Xuan-Su P., 2010).

At the regional level, managing of water and wastewater sectors in Jordan is done within two main levels as follows (HYDROSULT Inc., et. al 2011):

1. Policy and Regulation level: The Ministry of Water and Irrigation (MWI) is the official apex body responsible for the formulation of national water strategies, policies and planning, subject to approval by the Council of Ministers. Two key agencies in the water sector are under the authority of the Ministry: The Jordan Valley Authority (JVA) in charge of irrigation in the Jordan Valley and the Water Authority of Jordan (WAJ) in charge of water and sanitation service provision. In early 2008 a Royal Water Committee was established to develop policies and programs for the scarce water resources.
2. Service Provider level: *Aqaba Water Company* (AWC), a public company established in August 2004 as Jordan's first semi-autonomous water utility. A second public water company, Miyahuna, was set up in 2006 for the Governorate of Amman. The Northern Governorates Water Administration (NGWA) is a department of WAJ. Within this level, the participation of the private sector is considered for operation of water and wastewater facilities.
3. Some other NGO supporting the different institutions which are particularly engaged in water harvesting, water reuse and sustainable agriculture

In Yemen, the same two levels as Jordan are exist. The Ministry of Water and Environment (MWE) is representing the Policy and Regulation Institution which taking over responsibility for water supply and sanitation, & formulating water policies in Yemen. Three water sector agencies currently report to the Ministry: The National Water Resources Authority (NWRA) for water resources management, the National Water and Sewerage Authority (NWSA) for urban water supply, and the General Authority for Rural Water Supply (GARWSP) for rural water supply. Local Corporations (LCs), autonomous public utilities, as well as local branches of NWSA provide services in urban areas. Services in rural areas are provided by thousands of community-based water committees. Water committees were imposed local institutions, often suffering from internal management conflicts, leading to negligence of operation and maintenance which resulted in frequent break-downs. These are the service provider institutions at the local level (HYDROSULT Inc., et. al 2011).

In Israel, the institutional framework for water sources management was divided into two main levels: the Policy and Regulation level and the Service Provider level. The first level is occupied by the regulators and the policymaking institutes. The Minister of National Infrastructures is the responsible for the management of water resources, proposing the national water policy for Cabinet approval and subsequently implementing it, as well as for Israel's external water relations. The Ministry of Agriculture is the responsible of agricultural sector management; Ministry of Environmental Protection is mainly responsible for setting of the water quality standards, Ministry of Health has the task for monitoring and regulating of the drinking water quality, Ministry of Finance allocating and approving of the tariffs and investments, and the Ministry of Interior for urban water supply management. Newly an authority for Water and Sewerage which is an inter-agency body, headed by the Director of the Authority, and composed of senior representatives of the Ministries of Finance, National Infrastructures, Environmental Protection and Interior which has the duties to guide and monitor the operations of the Israel Water Authority. The Administration for the Development of Sewage Infrastructures, a unit in the Ministry of National Infrastructures, implements government policy in the field of development of sanitation. Regional Water Authorities or Water & Wastewater Corporations are entities that operate regional water and sanitation systems. At the service level, Mekorot is responsible for wholesale water supply. But, water distribution and sanitation is the responsibility of 76 municipalities, 144 local councils in small towns and 53 regional councils in rural areas. The Water and Sewerage Corporations provides for the gradual transfer of water and sewerage services from the municipalities to newly created corporate entities called "Water and Sewerage Corporations") (HYDROSULT Inc., et. al. 2011).

The HYDROSULT (2011) consultant mentioned that Jordan has the same levels of the institutional framework in Israel. It consists of two levels only: the Policy and Regulation level and the Service Provider level in addition to some I/NGOs and participation of the private sector in the management process. At the first level it was found that the Ministry of Water and Irrigation (MWI) is the responsible for the formulation of national water strategies, policies and planning, subject to approval by the Council of Ministers. Two key agencies in the water sector are under the authority of the Ministry: The Jordan Valley Authority (JVA) in charge of irrigation in the Jordan Valley and the Water Authority of Jordan (WAJ) in charge of water and sanitation service provision. In the absence of a regulatory agency, tariff setting is the responsibility of the Cabinet, after being proposed by the MWI. In 2008 a Royal Water Committee was established to develop policies and programs. At the Service Provider level; WAJ is responsible for planning, construction, operating and maintaining the public water supply and sewer services. *Aqaba Water Company* (AWC) is a public company. A second public water company, Miyahuna, was set up in 2006 for the Governorate of Amman which was created to take over service responsibility from a private operator.

Bandaragoda D. (2006) presented within a survey of the water-sector institutional scene of five countries in Asia (China, Indonesia, Philippines, Sri Lanka, & Thailand) showed that basically, three main inhibitive features would characterize the present situation of complacency in the IWRM:

- Dominance of the irrigation sub-sector.
- Fragmented policies and laws for water resources management.
- Mistrust among national stakeholders regarding the policies on water pricing and private sector participation recommended by donors and professionals.

The writer concluded that the management of water resources was purely on sectorial lines by a multiplicity of government agencies with little interagency coordination. Stakeholder consultations led to that all of these countries needed an apex body to coordinate water allocations among the various water user groups. The need for a clear water policy and related water laws was also acknowledged. Only such a clear and strong legal basis would ensure integration, sustainability and productivity—the cornerstones of IWRM. Although planned institutional reforms have been substantial in Asia, their actual implementation has been a very slow process due to many social, economic and political reasons

As a major step towards the reform of the water sector, the following reform measures need to be considered in the overall framework reform process (Tiwari A., 2009):

- Re-organization of the water supply sector setting out the separation of powers and the respective roles, functions and powers of key stakeholders;
- Institutional restructuring to develop and implement private sector participation in different formats which may extend to more than one urban local body;
- The regulatory framework governing economic and performance regulation so as to balance conflicting interests of the various stakeholders;
- Transition of the sector to viability with effective public private partnership and establish cost-reflective tariffs while securing access to the poor.

The institutional choice is not only about specifying decisions based on different actors, but also determining the rules that governs the way that these choices are adapted in policy design. The new directions of reforms therefore can adapt institutional choices via:

- Choosing institutional forms of delivery in local spatial context;
- Choosing policy tools which reform the legal framework of reforms.

It is therefore important to assess the changes required in the legal framework for reforms and to evolve a regulatory framework for sustainability of water sector reforms at a regional basis.

In addition, Pahl-Wostel C., et. al, (2010) pointed that, the adaptive governance systems often self-organize as social networks with actor groups that draw on various knowledge systems and experiences for the development of a common understanding and policies. Addressing the unpredictability of multiple sources of global change makes the ability of governance systems to deal with uncertainty and surprise essential. What is required is an increase of the adaptive capacity of governance regimes. Adaptive capacity refers to the ability of a resource governance system to first figure processes out and if required transform structural elements in order to better cope with experienced or expected changes in the social or natural environment. At the same time the normative principles of ‘*good water governance*’ should be followed. According to the definition of United Nation Development Program (UNDP) (1997) "good governance is characterized as participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, following the rule of law". The UNDP definition adaptive with the definition of water governance by the GWP: “Water governance refers to the range of political, social, economic and administrative systems that are in place to regulate development and management of water resources and provisions of water services at different levels of society”.

Based on UNDP & GWP definitions, a framework with a certain degree of formalization and standardization of all bodies and their interests will be required. MTF has been developed to support the analysis of water systems and management. It is the conceptual and methodological framework that supports the understanding of water systems and management regimes and transition processes towards more adaptive management. It builds on and integrates a range of concepts regarding *institutional analysis*, *adaptive management*, as well as *social learning* and *governance* to develop a more coherent understanding of the complexity of water management regimes.

The major conceptual bases which define the requirements for the elements to be included in the MTF can be summarized under the overall thematic areas of:

- Adaptive management (systematic process for improving management policies and practices by systemic learning from the outcomes of implemented management strategies and by taking into account changes in external factors in a pro-active manner) and characteristics of adaptive water management regimes;
- Social learning and regime transitions;
- The institutional analysis and development framework to analyse collective choice processes from an institutional perspective.

The MTF integrates a range of concepts to develop a more coherent understanding of the complexity of water management regimes. However, the MTF is not linked to one specific theory and can be tailored to specific research questions and different theoretical

approaches. The structured yet flexible, without being case specific and thus not directly transferable.

Any institutional set-up has to be worked out in detail for the observance of limits, the discouragement of unsustainable competitive demand, the promotion instead of the idea of sharing, the ensuring of equity and social justice and the harmonising of mutually conflicting claims. That kind of just, holistic, and sustainable management cannot be achieved by the state without the constructive cooperation of civil society. The set-up must be decentralised, having regard to the principle of subsidiary (that is, decisions being taken at the lowest appropriate level), and at the same time, ensuring basin level and coordination. There must be a nested set of water institutions including the micro level institutions (Ramaswamy R., 2010).

The institutional reforms differ across countries in terms of their coverage and effectiveness; they evince a remarkable similarity in terms of their thrust and direction. These similarities include the increasing importance attached to market-based allocation, decentralization and privatization, integrated water resource management, and economic viability and physical sustainability. The variations in the extent and coverage of institutional reform across countries provide evidence for the powerful effects that exogenous factors (e.g., economic and political reforms, international commitments, and natural calamities) have on the opportunity of institutional change within the water sector (Saleth R., A, 2000).

The above concepts, concerns, choices, approaches, & Frameworks will help to improve the current state of water sector in Palestine since presently there is a multiplicity of overlapping laws, authorities and gaps in laws, taking in consideration the common problems of the water sector management. This is further compounded due to the fact that municipal services and activities have created multiple jurisdictions with high level of power compared with the other bodies in the higher levels.

Mainly, solving of all problems related with water issues requires development of effective coordination and cooperation among the relevant organizations with clear duties by carrying out programs for strengthening the capacity in administrative system including qualified staff and equipment besides legal framework.

The legal side and the institutional arrangements will be shown in the following chapters with details in addition to the private sector participation in the sector management.

3. Review of the Legal Side of Water Sector

3.1 Introduction

This chapter aims to address laws directly related to water and wastewater sectors. These laws are four main laws: Water Law, Environmental Law, Agricultural Law, and Public Health Law.

The main objective of this chapter is to thoroughly review the main articles that are directly related to the water and wastewater sectors in each of the four laws. It is also aimed to highlight the articles in each law that stated the duties and responsibilities for each side and the relation between the competent agencies.

Based on the law, the objective is also to clarify the principle actors in the Palestinian water and waste-water sector management and their duties and responsibilities.

3.2 Water Law No.3/2002

A. Previous Water Laws prior to Water Law No. 3/2002

The Palestinian Water Law No.3/2002 was based on three main water laws that were applied previously in PALESTINE. These laws considered military laws with excuses for water sources management, and these laws are:

1. *The Safeguarding of Public Water Supplies Ordinance, No.17/1937* effective in Palestine. This law consists of eleventh articles approved by the high commissioner at that time. The main subject of this law is the protection of public water projects in Palestine and its legal procedures.
2. *Water Resources Testing Law No. 2/1938* effective in Palestine. This law consisted of six articles approved by the high commissioner at that time. This law targeted the procedures for exploration and extracting of the ground water in Palestine.
3. *Water Control Law No. 31/1953* effective in West Bank Governorates. This law consisted of thirty seven articles approved by two Jordanian ministers and the chairman of Jordanian ministers. This law was applied only in the west bank governorates since the west bank was under the Jordanian administration. This law targeted mainly the managerial and legal procedures for implementation and protection of the irrigation projects.

B. Chapter One, Definitions and General Provisions

Article (1): *The Authority is the Water Authority.* But, the Authority shall refer to PWA if the Head is referred to The Head of the Palestinian Water Authority as stated in the law.

Article (4): *This article stated that it is not allowed to desalinate water for commercial purposes without obtaining a license.* According to a survey carried out by Engineering and Management Consulting Center (EMCC) on 20009 stated that, only 50% of the private vendors are licensed. This emphasizes the main problem of the application of the law that the law should be applied strongly at the ground supported by judicial orders by the ministry of justice.

C. Chapter Two, The Water Authority

Article (6), Point.2 of this article stated that: ***The Authority shall be subjected directly to the Chairman of the Palestinian National Authority.*** This high level of water sector management is not effective. The low level decision making is considered the appropriate solution for our current situation until the final step of the state building. This authority shall has an independent system for managing the national water sector. But, this system shall be integrated within the full integrated water resources management plan.

D. Chapter Three, The National Water Council

Article (8): The structure of the NWC is considered the main problem that hiders its function to carry out its tasks and responsibilities. The high level of management and decision making becomes complicated when the Chairman of the Palestinian Authority is himself the chairman of the NWC.

Article (10): *The Council shall meet at the invitation of its Chairman at least once every six months.* This is what has been agreed regarding the regular meeting of the NWC. Since its establishment in 2002, the NWC met only once in March 2006. This further highlight the ineffectiveness of on the current organizational structure of the NWC and its impact on the implementation of the NWC tasks and responsibilities stated on **Article No.9.**

E. Chapter Five, Licensing and Tariffs

Article (20): *Unified tariff system for water shall be set on the ground; each municipality set its private Tariff system for municipal services.* A survey carried out in by the economist Jaber I. (2006) investigated water tariff for 16 municipalities in Gaza strip. As a result of this study, there is 16 different water tariff applied in similar social and economic conditions for the people served by these municipalities. In other words, a unified tariff system has not been applied

F. Chapter Seven, Regional Water Utilities

Article (25): According to this article, *national water utilities could be established as needed. These facilities will improve the management, and operation of the national water and sanitation services according to its basic law and the regulations will be issued for this purpose.* But, none of the current utilities established based on the Water Law. The current utility in Gaza strip (CMWU) was established based on the Local Organizations Law No. 1/1997.

Article (27): This article allows the possibility of private sector participation in the operation of water and sanitation utilities.

G. Chapter Eight, Protection of the Environment

Article (29): As stated in **Point.2** of this article, *PWA shall participate in preparing special guidelines for the environmental impact assessment for any activity relating to water resources or their supply systems in coordination with the competent agencies.*

H. Chapter Nine, Control and Inspection

Article (33): *All the operators shall have license from the authority according to Article.4 of the law. Point No.2 of Article (33) stated that the licensed operators of water or wastewater facilities must give periodic reports about their activities.* That's mean that the licensed operators only shall exercise their mandates to provide water and sewage services, and the other unlicensed shall not be allowed to work or the PWA has the authority to stop their works until the completion of the legal process of the license with the regulator (PWA).

I. Chapter Ten, Violations and Sanctions

Article (35): After revising the three laws (No.17/1937, No. 2/1938, No. 31/1953), and comparing with water law no. 3/2002, it was found that, the water law no. 3/2002 followed the same concept of the violations and sanctions for any non-legal procedures regarding the national water sources. In **(Part .a, point.1&3)** there is no breakdown for the different types of pollutants or violations on the water sources. The sanctions should be according to the size of damage due to: 1.pollution type, 2.the consequences for the economical social, & health effects, 3.the opportunity cost to find alternative sources, and 4.recovery cost.

Article (40): *According to the virtue of the provisions of the Water Law, PWA shall have the responsibility of supervise, regulate and plan for the water resources.*

Article (41): *The relevant governmental authorities, private, official institutions, or municipalities shall continue to exercise the authorities and responsibilities granted to it under the laws and regulations that are in operations till the regional utilities referred to in the provisions of the Water Law are brought into existence.*

In comparing of this article with the basic law of CMWU (If CMWU is considered as one of the four regional utilities, and the only utility was established for the southern governorates in Gaza Strip), there is a clear contradictory, since CMWU established under the Local Organizations Law No. 1/1997 only as common council without considering the Water Law and its provisions as reference in and for the basic law of the utility. This reduced the responsibilities of PWA as regulator for the water and waste-water sector and weakened its power to supervise and control regional utilities as stated in **(Chapter Seven, Regional Water Utilities, Article.28, Point.1)** of the Water Law.

So, the legal side of establishing of CMWU as common council or regional utility with its current basic law shall be modified to include the Water Law and its provisions as main legal reference for this utility.

3.3 Environmental Law No.7/1999

After revising the Environmental law and comparing with the Water Law, the following points were found:

A. General

The articles of the environment law contain **(The Ministry or Minister)** did not changed to refer to **(The Authority)**, since PEnA were recognized later as EQA according to the **Presidential Decree No.6/2002**.

No articles at the environment law were found regarding protection of the valleys, wadies, & rivers, and changing the topography & the banks limits. And, no articles were found at the water law regarding the different uses of the water collected at these natural sources.

B. Title I, Definitions and General Provisions, Chapter 1, Definitions

Article (2): *The main objectives of the environmental law are protection of the environment & public health and welfare.* This is the main responsibilities of the EQA in coordination with the competent agencies and authorities. EQA share the responsibility to protect the public health with the MoA as stated in **(Definitions and General Provisions, Chapter 2, Responsibilities of the Authority, Article.2)** of the agricultural law, and MoH as stated in **(Chapter Seven, Loathsome Sites, Article.39)** of the public health law.

Actually, PWA indirectly share the responsibility of public health protection on the ground by preserving and protecting of the water resources from pollution and depletion as stated on **(Chapter One, Article.2, Definitions and General Provisions)**, and creating reservation areas for protection from the danger of pollution as stated on **(Chapter Two, Article.7, Responsibilities of the Authority)**. But, the water law shall contain a clear statement about the public health protection to be one of aims of water law and one of the main tasks and responsibilities of the PWA. Because water has a profound influence on human & public health, and the quantity & quality of the water supplied are important in determining the health of individuals and whole communities.

C. Title II, Environmental Protection, Chapter 1, Land Environment

Article (12): *It is not allowed for any person to treat, use, distribute or dispose any hazardous substance or waste whether it is solid, liquid, or gas, unless in accordance with the orders and directives specified by the ministry in coordination with the competent agencies.*

In the Water Law, no articles were stated regarding the different uses of any kind of hazardous substances or the solid, liquid or gas wastes. But, PWA shall participate in regulating the use of agricultural and industrial materials, which may cause pollution to the

water resources or its supply systems as stated in (**Chapter Eight, Protection of the Environment, Article.29, Point.1**) of the Water Law.

Article (14): *EQA is the main responsible authority for drafting the environmental precautions for use of the agricultural materials.* And, PWA has the right to participate in regulating the use of agricultural substances which considered harmful for water sources as stated on (**Chapter Eight, Protection of the Environment, Article.29, Point.1**) from the water law.

D. Title II, Environmental Protection, Chapter 3, Water Environment

Articles (28&29): *EQA is the main responsible authority to set the standards for water uses, wastewater reuse, infiltration, or disposal.* According to the definition of the water quality standards in the water law (**Chapter One, Definitions and General Provisions, Article.1**), and PWA tasks stated on (**Chapter Two, The Water Authority, Article.7, Point.14**), PWA shall participate at the setting up the water standards for all uses in cooperation with EQA.

Article (30): This article *prevented any person to discharge to the environment any solid, liquid or other substance unless such a process conforms to the conditions and standards that the competent agencies determine.* So, it is completely forbidden to dispose any kind of solids, liquids and other substances in any ground or service water sources until it is approved by the relevant agencies.

E. Title IV, Environmental Impact Assessment, Licensing, Inspection and Administrative Procedures, Chapter 1, Environmental Impact Assessment

Article (45): *EQA is the direct responsible for setting the standards of the Environmental Impact Assessment (EIA) and its process.* And, PWA is one of the main competent agencies has the right to participate in preparation of the EIA process for any activities related to water sector as stated on (**Chapter Eight, Protection of the Environment, Article.29, Point.2**) from the Water Law.

F. Title IV, Environmental Impact Assessment, Licensing, Inspection and Administrative Procedures, Chapter V, Penalties

Articles (58-74): The provisions of the sanctions adapted generally without details about the violations against the environmental sources the same as water law. But compared with the other three laws, the environmental law has the most stringent penalties and the highest fines.

3.4 Agriculture Law No. 2/2003

After revising the Agriculture Law and comparing with the Water Law, the following points were found:

A. Definitions and General Provisions, Chapter 1, Definitions

Article (1): According to definition of the waste-water, there will be sewage produced from the agricultural activities. But, no articles on the Agricultural Law define the legal side of disposing the agricultural sewage and the penalties of the violations.

The Environmental Law prevented in general the disposing of any kind of solid, liquid or other substance from any kind of activities without the approval from the competent agencies according to **(Title II, Environmental Protection, Chapter 3, Water Environment, Points.29)** of the Environmental Law.

B. Definitions and General Provisions, Chapter 2, Responsibilities of the Authority

Article (2): One of the main responsibilities of *MoA is participating on public health preservation from the agricultural side*. And as stated before in **(Point. B, Section.2)**, the public health protection is a shared responsibility between MoA, EQA, MoH & PWA indirectly.

Article (3), Point.7 of this article stated that: *projects for water harvesting through small dams and water collection could be constructed as one of the main tools for sustainable agriculture improvement*. This task should be carried out in cooperation with the competent agencies mainly PWA as water resources regulator, and EQA for the environmental precautions according to **(Part Four, Chapter Four, Agricultural Water, Article.54)** of the Agricultural Law.

C. Title I, Chapter 5, Agricultural Fertilizers

Article (26): *MoA is the main responsible for identifying the different types of fertilizers allowed to be used for agricultural activities in cooperation with the relevant bodies*. At the same time, PWA has the right to participate in regulating the use of agricultural substances which considered harmful for water sources as stated on **(Chapter Eight, Protection of the Environment, Article.29, Point.1)** from the Water Law. But, EQA is the main responsible authority for drafting the environmental precautions for use of the agricultural materials as stated on **(Title II, Environmental Protection, Chapter 1, Land Environment, Article.14)** of the Environmental Law.

D. Title V, Chapter 4, Agricultural Water

Article (54), Point.3 of this article stated that: *MoA has the responsibility to treat the water sources to be usable*. This task shall be specified for the agricultural water sources only. Otherwise, the ministry shall handle the treatment task for all kinds of water sources in cooperation and coordination with PWA and the other competent agencies.

According to **Point.4** of the same article, *the ministry shall carry out the periodic analysis for the agricultural water and identify its appropriateness for the agricultural activities* in cooperation and coordination with the PWA mainly and the other competent agencies.

Point.5&6 of the same article stated that, *the MoA has the right to use the non-drinkable & treated water and drill wells to be used for the agricultural activities only*. This task should be carried out in cooperation and coordination with PWA and the other competent agencies.

Article (55): According to this article, *it is completely forbidden to irrigate the agricultural yields with the raw wastewater without treatment according to the national standards* approved by:

- ✓ **EQA** as stated on (**Title II, Environmental Protection, Chapter 3, Water Environment, Points.29**) of the Environmental Law.
- ✓ **MoA** as stated on (**Part Four, Chapter Four, Agricultural Water, Article.55**) of the Agricultural Law.
- ✓ **PWA** as stated on (**Chapter Two, The Water Authority, Article.7, Point.14**) of the Water Law.

E. Title VI, Chapter 9, Penalties

Article (78-80): Agriculture law was built on the same approach adapted by both water and environmental laws for the sanctions for agricultural violations.

3.5 Public Health Law No. 20/2004

After revising the Public Health Law and comparing with the Water Law, the following points were found:

A. Chapter One, Definitions and General Principals

Article (2), Point.11 & 16 of this article stated that: *the Ministry of Health (MoH) is the official responsible body or authority for the regular inspection for drinking water with respect to its adequacy for human consumption, and health supervision over all sewage systems and waste water plants* in coordination with PWA as regulator who shall have full responsibility for managing the water resources and wastewater as stated on (Chapter Two, The Water Authority, Article.7, Point.1) of water law, and EQA who shall specify the standards for the quality and characteristics of drinking water as stated on (Title II, Environmental Protection, Chapter 3, Water Environment, Article.28) of the Environmental Law.

B. Chapter Seven, Loathsome Sites

Article (39): According to this article, *MoH shall determine the health hazards that negatively affect public health and the environmental health, in coordination with competent agencies* mainly:

- ✓ PWA for water borne diseases, and any health effects caused as result of water pollution & sewage contamination.
- ✓ MoA to identify the risks resulting from contamination of groundwater using different types of the fertilizers in various agricultural activities.
- ✓ EQA to determine the impact on the quality of life and basic ecosystems.

Article (40): *Each individual at the local communities shall share the reasonability to protect the environment without creating or remove whatever hazards or harms created by or were responsible for.* This principle stipulated by the Public Health Law emphasizes the need of community participation in the environmental natural sources protection.

Article (42): As stated in this article, *the MoH shall determine the conditions for the collection, recycling or reuse of wastewater and rain water, in coordination with the relevant bodies* mainly:

- ✓ PWA for studying water and wastewater projects from the technical side, projects that integrate them, setting design standards, quality assurance, technical specifications, control its implementation, and participate in setting approved standards for the water quality for the different usages as stated on (Chapter Two, The Water Authority, Article.7, Points.6&14) of the Water Law.

- ✓ **EQA** who shall set standards for collecting, treating, reusing, or disposing waste water and storm water in a sound manner which comply with the preservation of the environment and public health as stated on (**Chapter Eight, Water Environment, Article.29**) of the Environmental Law.
- ✓ **MoA** as stated on its agricultural plans and policies (**Part Four, Chapter Four, Agricultural Water, Article.54, Points.5&6**) of the Agricultural Law, to use the non-drinkable water, the recycled water, and construct the small dams and pools to collect the storm water for the agricultural purposes.

Article (43): *Public Health Law prevent using of the wastewater for fertilization or irrigation of agricultural land and completely forbidden to irrigate the agricultural crops with wastewater without any kind of treatment or recycling according to the national standards approved by the competent agencies* as cleared in (**Part.1, Point – 1.3.4, Section.3**).

Article (45): *MoH shall determine the conditions to ensure the safety of water in springs, wells, & wadies and the conditions to save beaches from pollution and miss use* in coordination with EQA for the environmental precautions, PWA as regulator for water sources, and MoA for the agricultural wells.

4. Reform the Institutional Framework

4.7 Introduction

Institutional arrangement and participation of all stakeholders is essential for governing the water sector to insure the integrated approach of water management. As mentioned in the literature review, the water sector in Palestine is management by different institutes that are categorized into the three levels of management (Political, Regulatory, and Operational) as cleared in **Figure (4.1)**. And as stated before, the current structure of water sector is not sufficiently meeting the challenges from the increasing amount of fresh water demand for the different purposes mainly municipal and irrigation. In addition, the current management of wastewater sector does not have the capacity to manage the high level of treatment need for irrigation and aquifer recharge.

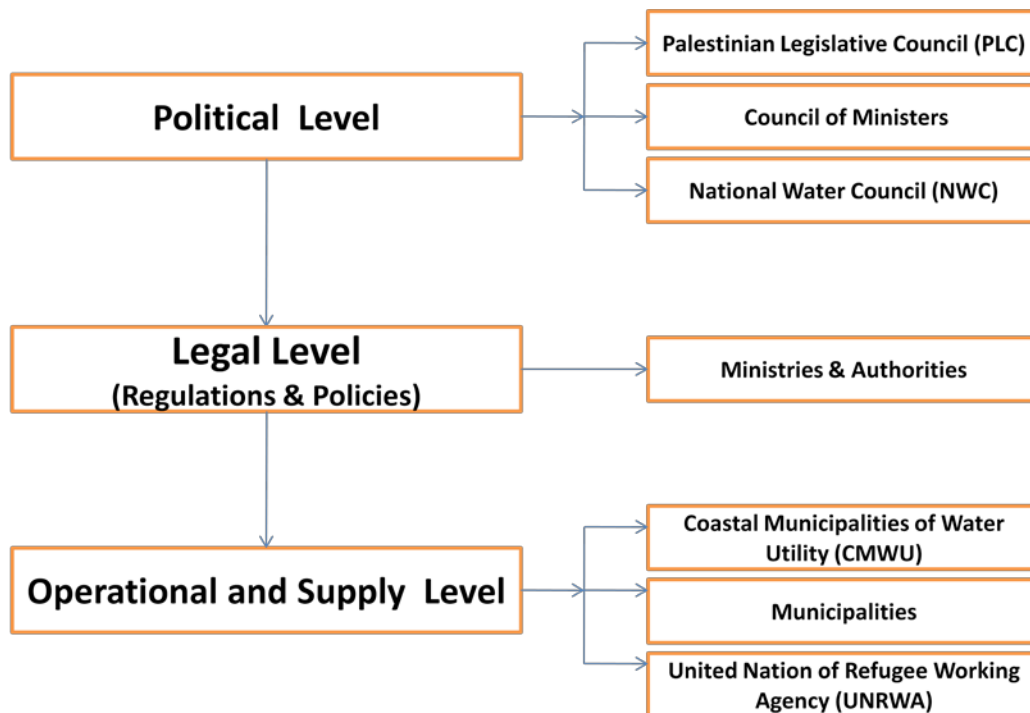


Figure 4.1: The Current Three Levels of Water Sector Management.

The lack of clear responsibilities and duties for each institute, combined with the occupation and its restrictions, and the political situation mainly in Gaza Strip, has been jeopardizing the functionality of the institutional, legal, policies and regulation sides of the water sector.

As a result, the institutional framework of water sector will be reformed based on the principles of the water governance within the IWRM approach and according to the concepts of the MTF. The main principle of the IWRM is taking in account all stakeholders and their interests at the management process of water sector according to the multi-level governance regimes. At the same time, water governance refers to the entire set of systems that control decision making with regard to water resource development and management (how, by whom, and under what conditions). And the public should participate as the final user of water services at the appropriate level represented by a special body reflect its rights to the higher levels, and by this step, the public will share the responsibility with the other institutes to manage the water sector at the local level.

Accordingly, there will be two options for the governance regime of water management as follows:

First Option:

The governance regime will be divided to four levels as shown in **Figure (4.2)**:

1. **Political Level:** Palestinian Legislative Council (PLC), Council of Ministers, and National Water Council (NWC). This level will state the required policies for the water management process.
2. **Legal Level (Regulations & Policies):** Ministries and Authorities. This level will insure applying the stated policies through adequate regulations.
3. **Operational and Supply Level:** Regional utilities. This level will include also the private sector participation in the management of the water and wastewater sector. This level will operate the assets of water and waste-water sectors and will provide the service for the lower level.
4. **Service Level:** Common Council of Services, Municipalities, United Nations Refugees Working Agency (UNRWA), and Local committees. This level will have a direct contact with the beneficiaries.

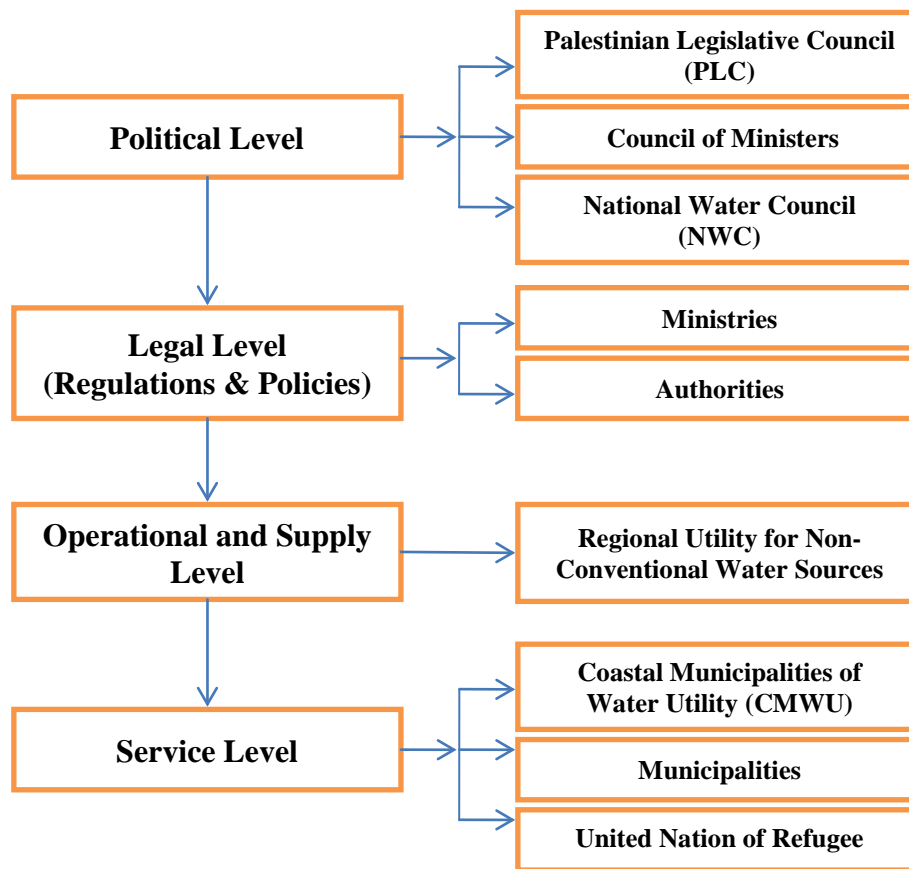


Figure 4.2: First Option Governance Regime in Palestine.

This multi-level regime for water management will be figured out within the MTF structure to identify the relations between the different institutions.

MTF is a global conceptual and methodological framework supporting the analysis of water systems, management processes and multi-level governance regimes towards more adaptive of the integrated management (Pahl-Wostl C., 2010). The following points are the main principles that must be taken into account in the reform process:

1. The **overarching boundaries** are given by the **‘Water System’** which comprises all environmental and human components.
2. The **‘Ecological System’**, comprises abiotic and biotic components of the water system. Components of this system are the ‘environmental service’ and the ‘environmental hazard’.
3. The **‘Environmental Services’** capture the function of an ecological system as provider of different kinds of services for human activities.

4. The **'Societal System'** is the social system in which specific actions focused on a societal function as water supply.
5. The **'Technical infrastructure'** refers to infrastructure of relevance for the water management issue under concern.
6. The **'Operational Outcomes'** the outcomes from the strategic interventions and the management process.
7. The **'Institution'** comprises more than a single specific formal or informal rule.
8. The **'Actor'** is a collective participant to build up the societal systems, and take part in action situations within its certain roles.
9. The **'Action Situation'** is a structured social interaction context that leads to specific outcomes can be Institutions or Knowledge.
10. The **'Observed State of Water System'** is a specification of knowledge used in an action situation to evaluate the state of the water system.
11. The **'Knowledge'** refers to meaningful information and experience.

Based on the above mentioned principles, the following points should be considered and represented by the suitable institution at the appropriate level.

1. Water components are represented by the ecological system, and the environmental system is the provider for the functions of the ecological system. So, providing water services for the different human activities (including the agricultural activities) are part of the ecological system, then the environmental system.
2. Since the public is the end user of the water services in the social system, the public should be as part of the management process of the water system at the local level. If so, the public will share the responsibility to protect the water sources as the other governmental bodies.
3. It is an essential to enhancing the technical infrastructure for the management process. The attributes characterizing technical infrastructure are scale, lifetime, maintenance and ownership. This side should be represented by a special institution at the appropriate levels.
4. From each intervention there will be outcomes. These outcomes need to be planned before, reported within the interventions, and monitored at the operational stage. This should be according to the strategic plan and the national policies of the water management.
5. Each Institution shall have its clear rules. According to studying of the four related law, it was found that each side has its clear duties as stated on the law. But, the coordination mechanism and the political concerns weakening the legal side of the water management.
6. Knowledge should be reported and published after evaluation the water system state. This information should be available for all users including the public. This information will be the basis for the national policies & strategic plans updating.

The following sub-sections will elaborate the different levels of water sector management and the competent agencies in each level.

4.7 The Political Level

The political level is represented by three main institutes as shown in **Figure (4.3)**, the Palestinian Legislative Council (PLC) as the legislative authority & the Council of Ministers as the executive authority, in addition to the National Water council (NWC) as water policymaking institution. The **Basic Law in 2003** which modified later by the **Amended Basic Law in 2005** controls the two authorities and specify their duties in general. But, the **Water Law No. 3/2002** allocated the structure and the duties of the NWC as the policymaking agency for management of the water sector at the political level.

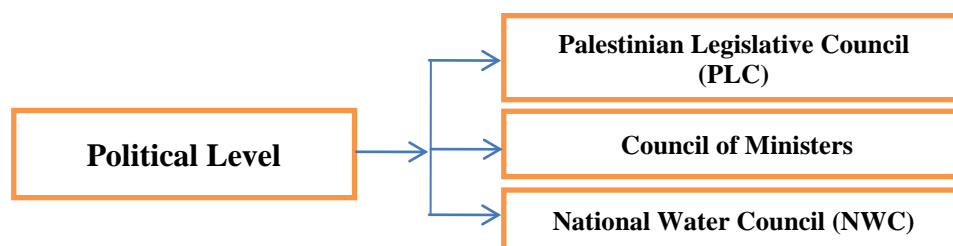


Figure 4.3: The main Institutions at the Political Level of Water governance in Palestine.

The titles of the Basic Law include a group of modern constitutional rules and principles that ensure the rule of law, strike a balance between the executive, legislative and judicial branches, and draw lines between their respective jurisdictions in a manner that ensures independence to each of them while coordinating their roles to achieve a high national interest that will serve as a guide to all. In relation to the water sector, **Article.33** in the Basic Law insures that all the Palestinian shall enjoy a clean environment. This means that the main ecosystem components which include water shall be clean and available for all Palestinian at equitable manner with acceptable quality and quantity. The same article stated that, the preservation and protection of the Palestinian environment from pollution is a national duty. So, all the competent agencies and the population shall share the responsibility of protection and preservation.

From this point, the PLC, Council of Ministers and NWC have the highest responsibility regarding the protection of the environmental components in general and especially water sources and its facilities for the sake of present and future generations, since these three institutions are the head of management pyramid of the water sector mainly at the political level each according to its duties and responsibilities stated by the national laws.

4.2.1 Palestinian Legislative Council (PLC)

The idea to establish the PLC based on the document "**Declaration of Principles**" that took place in the Norwegian capital Oslo initialed on 1993. On 1995, details have been placed for the PLC in the Israeli-Palestinian agreement for the interim period. Since that time up to date, the election of the PLC took place two times, the first was by the year 1996, and the second was in 2006.

The Basic Law and its amendment contain the legal framework of the PLC as a key pillar in the Palestinian political system. **Chapter Four** of the **Basic Law 2003** identified the legislative authority represented by the PLC. After revising chapter four of the basic law 2003, it was found that:

1. PLC is the elected legislative authority, and shall assume its legislative and oversight duties as prescribed in its standing orders or its internal law according to the **(Article.47, Title Four, The Legislative Authority)**.
2. PLC enacts laws regulating the public administration, finance and economic situations at the national level.
3. PLC controls the government and its official institutions.
4. PLC may form a special committee, or entrust one of its committees, conduct information gathering and fact-finding regarding any public matter or regarding any public institution according to **(Article.58, Chapter Four, The Legislative Authority)**.
5. PLC approves the General Development Plan as stated on **(Article.59, Chapter Four, The Legislative Authority)**.

The By-Law for the PLC which was approved in 2000 detailed the composition and the administrative arrangements for the PLC. According to **(Article.48, Chapter Four, Committees Formation)** of the By-Law, the PLC can form a permanent committees for censorship and studying the proposed laws. One of the committees is the Natural Sources and Energy committee. This committee is the responsible about observation and studding the proposed laws about the natural sources which including water sources.

These committees are responsible about reviewing and studying the proposed laws and suggestions which were remitted to the president of the PLC by the Council of Ministers as stated in **(Article.65, Chapter Five, Proposed Laws and Suggestions, Point.1)** of the By-Law. In addition, these committees can propose a new law or modify or repeal any laws in power according to **(Article.67, Chapter Five, Proposed Laws and Suggestions)** of the By-Law. The president of the NA shall issue the laws approved by the PLC according to **(Article.71, Chapter Five, Proposed Laws and Suggestions)** of the By-Law and

(**Article.41, Chapter Three, The President of the Palestinian National Authority**) of the basic law.

4.2.2 Council of Ministers

The Council of Ministers is the executive authority for the PNA was established by the **Presidential Decree No.2/1998** and consists of the prime minister in addition to not more than 24 Palestinian ministers. The prime minister is the minister of finance authority. The Basic Law and its amendment contain articles about the council provided in **Chapter Five** of the **Basic Law 2005**. After reviewing chapter five, the following points were found:

1. The Council of Ministers “**Government**” is the highest executive and administrative instrument. It shoulders the responsibility for implementing the program that has been approved by the PLC according to (**Article.63, Chapter Five, Palestinian Basic Law**).
2. One of the Prime Minister duties is to oversee the work of the Ministers and public institutions dependent on the government as stated on (**Point.5, Article.68, Chapter Five, Palestinian Basic Law**).
3. According to (**Article.69, Chapter Five, Palestinian Basic Law**), the Council of Ministers shall:
 - 3.1. Follow up the enforcement of laws and to ensure compliance with their provisions & taking necessary actions in this regard as **Point.5**.
 - 3.2. To supervise the performance of the ministries and all other components of the administrative apparatus in respect of their duties and functions, as well as to coordinate between them as **Point.6**.
 - 3.3. Establish or dissolve agencies, institutions, authorities each shall be regulated by law & supervise them in accordance with the provisions of the law as **Point.9**.
 - 3.4. To specify the respective responsibilities of all ministries, agencies, institutions, and authorities, that report to the executive authority as **Point.10**.
4. The Council has the right to submit draft proposed laws to PLC, to issue regulations and to take necessary actions to implement laws according to (**Article.70, Chapter Five, Palestinian Basic Law**).
5. The Prime Minister and members of the government are jointly and individually accountable to the Legislative Council as (**Article.74, Chapter Five, Palestinian Basic Law**).

In particular to Water Sector, The Council of Ministers, based upon the recommendation of the NWC, may issue any regulations that find suitable, to implement the provisions of the water law as stated in (**Chapter Eleven, Final Provision, Article.42**) of the Water Law.

4.2.3 National Water Council (NWC)

The National Water Council (NWC) was formed based on the Water Law (3/2002). The NWC is chaired by the President of the PA and consist of five ministers, six other members representing government and non-government organizations and the head of the PWA as the secretary of the NWC. **Chapter Three** of Water Law regulated the structure and duties of the NWC. After revising chapter three, the following points were found:

1. According to **Article.8** in **Chapter Three** of the **Water Law**, the NWC shall be composed as follows :
 1. The Chairman of the Palestinian Authority Chairman
 2. The Minister of Agriculture. Member
 3. The Minister of Finance. Member
 4. The Minister of Health. Member
 5. The Minister of Local Government. Member
 6. The Minister of Planning and International Cooperation. Member
 7. The Head of Environment Authority. Member
 8. The Head of the Water Authority. Member
 9. The lord Mayor of the Capital. Member
 10. A Representative for Chairman of the Union of Local Authorities. Member
 11. A Representative for the Palestinian universities. Member
 12. A Representative for the Water Union and Societies. Member
 13. A Representative for the Regional Utilities. Member

The composition of the NWC has high level Organizational Structure which seems clear in the following points:

2. The chairman of the NWC is the Chairman of the PA, who has continuous and various responsibilities at the national and international levels which minimize his direct follow up for the NWC functions and the results of the council's meeting.
3. Five of the NWC members are ministers and Two are head of authorities burdened with their own successive duties.
4. The lord Mayor of the Capital is a honorary member only because of the lack of clear responsibilities that can be handled by the lord mayor in the water sector management.

The decision making powers of the NWC were stated in (**Article.9, Chapter Three, Water Law**). The Council shall carry out the following tasks and responsibilities:

1. Sanction the general water policy.
2. Sanction the policy for development and utilization of water resources.
3. Sanction plans and programs aimed at organizing the usage of water, the preventing wastage, and directing consumption.
4. Sanction the tariff policy.

5. Approving the allocation of funds for investment in the water sector.
6. Sanction the periodic reports concerning the activities of the Authority and its work.
7. Sanction the Authority's guidelines and confirming the internal regulations that govern its administrations and operations.
8. Confirming the appointment of the board of directors of the regional utilities.
9. Sanction the annual budget of the Authority and presenting it to the Cabinet of Ministers to confirm it.
10. Implementing the financial regulations prevailing in the Palestinian National Authority.
11. Any other tasks which are delegated to it according to the provisions of this law.

According to **Article.10** of **Chapter Three**, the NWC shall meet at least once every six months. The NWC meetings are legal only when attended by its chairman or his deputy, which minimizes the opportunities for the head to preside over NWC meetings. In addition to, most of the NWC members are ministers occupied with their own duties. Since its establishing, the NWC was met only once in May, 2006. The absence of the NWC prevent the NWC to carry out its tasks and responsibilities as law, which affecting negatively on the progress of PWA, goals of the water law, and an effective institutional process.

As result for the above mentioned current situation of the NWC and its continuous hindering of the institutional process, there will be two proposals to rectify the institutional framework of water sector at the political level:

A. First Proposal: Reform the current structure of the NWC.

The first proposal suggests that the current composition of the NWC should be reformed to be adaptive with low level ministerial and stakeholder forum. The proposed modifications will be as follows:

1. Replace the chairman of the NWC instead of the Chairman of the PNA could be either the Chairman of the PLC or his Vice-chairman or the Prime Ministers or his deputy minister. The second proposal is preferable since the Prime Minister or his Vice could be the chairman of the NWC. Since the NWC is the policymaking institution for the water sector, and considered part of the government or public institute depend on the government. And according to the articles in Chapter Five of the Basic Law, the Council of Ministers is the highest executive and administrative instrument has the responsibility to establish or dissolve agencies, institutions, authorities, appoint heads of these institutions and agencies, and supervise them in accordance with the provisions of the law. Mainly, one of the Prime Minister duties is to oversee the work of these agencies, institutions, authorities or the public institutions dependent on the government.

2. The Chairman of the Union Local Authorities shall replace the representative of the Union Local Authorities in the current composition as stated on (**Chapter Three, The National Water Council, Article.8**).
3. One representative for the National & Regional Water Utilities.
4. One representative for the non-governmental organizations (NGO) working in the field of water.
5. One representative for the water associations and Societies.
6. One representative from the academic water field from the Palestinian universities.
7. Remove the Mayor of the Capital from the current composition of the NWC since the mayor has no practical powers.
8. Add the Minister of the National Economic as one of the main members in the composition of the NWC, since the Ministry of the National Economy is the governmental body which supports the private sector investments as financial aid for developing of the water sector.
9. Members in the composition shall be categorized into two main committees as follows:
 - ✓ **Board of Director:** this committee shall include members have the right to vote and decision making, and considered the direct responsible to carry out the duties amended to the NWC in **Article.9** of the Water Law.
 - ✓ **Advisory Committee:** this committee shall include members with honorary positions without any practical powers. Mainly this committee will provide technical advisories and propose the coordination mechanisms with other competent agencies each according to its law. In addition, it has the right to supervise and monitor work of the board of director and evaluate its progress according to specific criteria identified based on the stated duties of the NWC.

The two committees shall coordinate in between to keep the NWC in continuous functioning and to insure the developing of water sector in a proper management process. In addition, the Water Law shall contain articles identifying the duties and responsibilities for each committee, period of meetings, and the coordination mechanisms between the two committees. In addition, the law shall has an article about the relation between the advisory committee mainly and the experienced and specialized experts, consultants, and technical utilized by the NWC as stated on (**Chapter Three, The National Water Council, Article.11**) of Water Law. The members for each committee were identified and presented in **Figure (4.4)**.

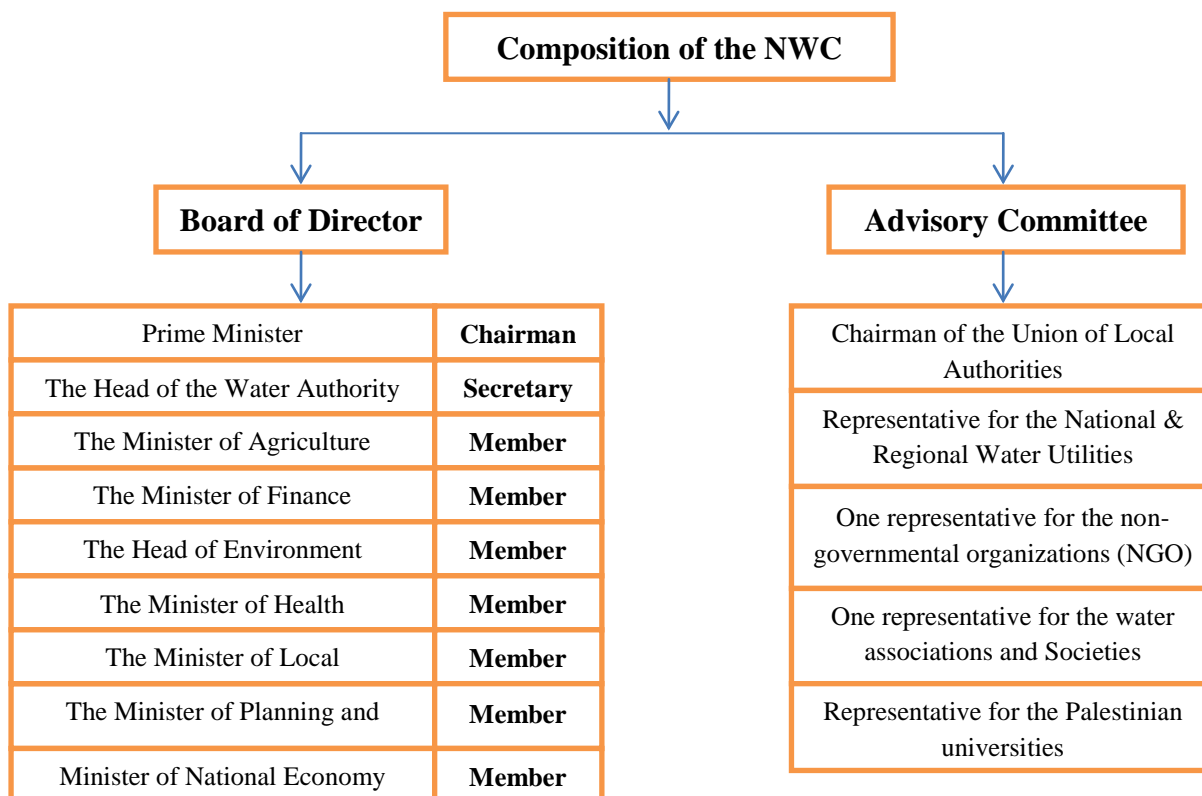


Figure 4.4: The Proposed Composition of the NWC.

B. Second Proposal: Resolve the NWC

Due to the current status of the National Water Council and its inability to carry out its duties assigned by water law because NWC did not have a full legal mandate to go on, and has extremely difficulties to mobilize the high level of decision making. So, the absence of a functional NWC lacking of strategic guidance and affecting the policies and strategies of the sector. The second proposal based on resolve the NWC from the management structure of water sector and assigned its duties to the Council of Ministers according to:

1. In the current composition, five members of the NWC are ministers in addition to PWA which represented by MoA at the Council of Ministers. And with adding Minister of the National Economy as new member to the new proposed structure of the NWC, the total number of ministers will increased to six members. So, the responsibilities of the NWC approved at (**Chapter Three, The National Water Council, Article.9**) could be assigned to the Council of Ministers since the council is the high authority control all the ministers and regulating there works based on the Basic Law.
2. The Council (**Council of Ministers**), may issue directly any regulations that it finds suitable, to implement the provisions of the Water Law as stated on (**Chapter Eleven, Final Provision, Article.42**) of the Water Law.

3. The Council (**Council of Ministers**), shall agree to accept the Grants, dons, assistance, loans, and any other financial resources before diverted to PWA a special account for the Authority and shall be supervised directly by the Ministry of Finance and the PWA as stated in (**Chapter Six, Financial resources, Article.21, Point.2**) of the Water Law.

Thus, here are some of the major changes on Water Law which shall be considered as result for this proposal:

1. **Chapter One, Definitions and General Provisions:**

Article.1: The Council: The Council of Ministers.

2. **Chapter Three, The National Water council:**

Article.8: this article could contain composition of especial committee assigned by the **Council of Ministers** to carry out all or part of its duties.

Article.9: The assigned duties will be carried out by the council (**Council of Ministers**) or any other committees proposed by the council. Since the Council (**Council of Ministers**) may form, from among its members, one or more committee, permanent or temporary, to which it shall delegate all or part of its tasks or responsibilities, or assign to such committee a specific task and report about it.

Article.10: If the **Council of Ministers** assigned or proposed a committee to carry out all or part of its duties this article shall identify the periodic meeting and the other related issues to the meeting and decision making.

Article.11: The Council (**Council of Ministers**) may utilize the services of experienced and specialized experts, and consultants, and technical.

3. **Chapter Four, The Head of the Authority: His Tasks and Responsibilities:**

Article.14: The Council of Ministers will recommend the Head of the Authority, and a Deputy-Head.

4. Chapter Four, The Head of the Authority: His Tasks and Responsibilities:

The Council (**Council of Ministers**), The Council has the right to decide by means of a reasoned decision to suspend or dismantle the services board of directors for the regional utilities as stated on (**Chapter Seven, Regional Water Utilities, Article. 28, Point.2**).

4.7 The Legal Level

The legal level of the water management structure include two types of institutions the ministries and authorities as shown in **Figure (4.5)**. Some of these agencies have the direct legal responsibilities to apply the provisions of laws by enforcing the regulations and policies on the ground. And others are supportive competent agencies with a specific task have an indirect responsibility in the legislative side of water sector management.

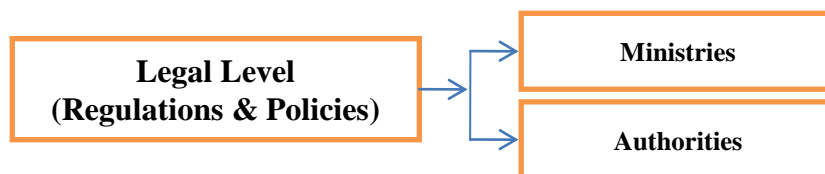


Figure 4.5: Types of Institutions in the Legal Level.

4.3.1 Ministries

In Palestine there are various ministries within the general framework of water sector management. These ministries have direct or indirect responsibilities about the management process. Some other ministries shall be integrated with the structure based on the current requirements. As example, if the private sector will participate in the operation and maintenance of the water system, then the ministry of national economy shall be part of this composition in order to encourage and control the private sector. **Figure (4.6)** segregated the proposed ministries to a direct and indirect responsible according to its duties.

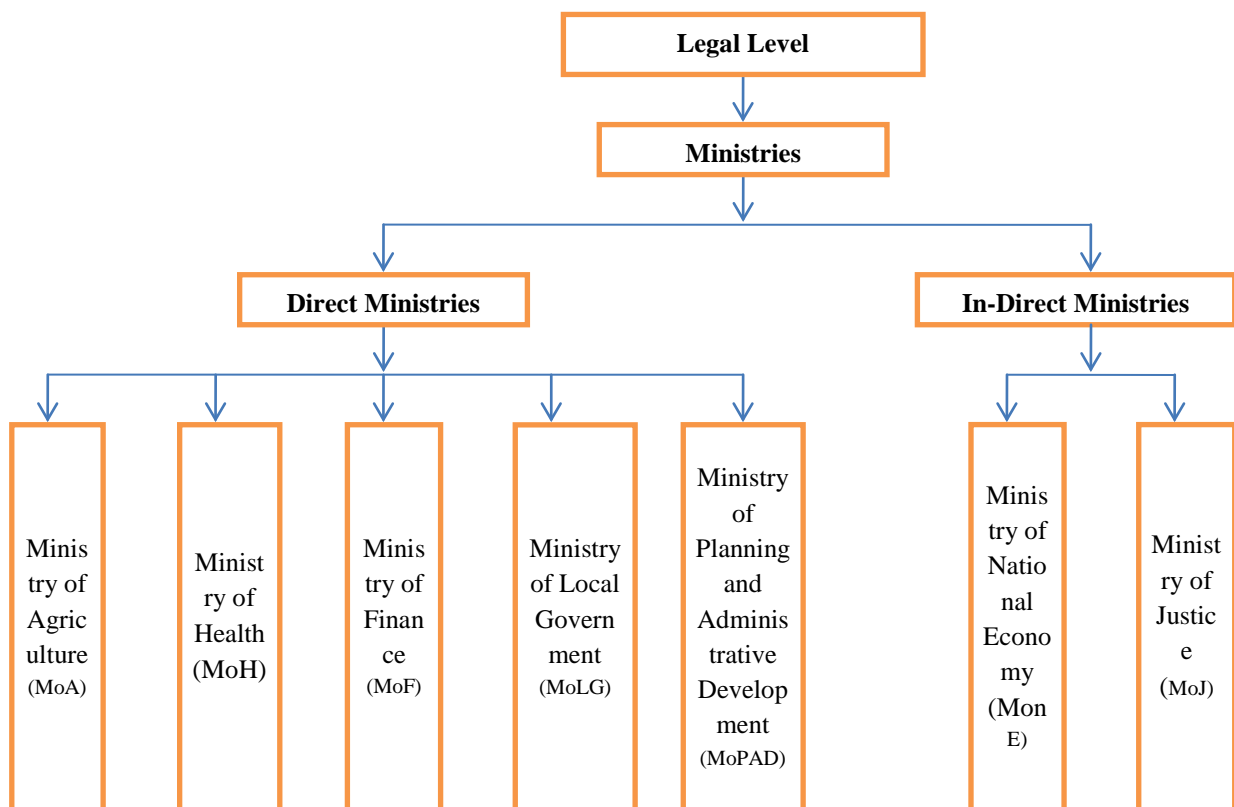


Figure 4.6: Segregation of the Proposed Ministries at the Legal Level.

A. Ministry of Agriculture (MoA)

The MoA is the responsible for guiding and overseeing the agricultural sector, which represents a major Palestinian water user. Agriculture accounts for approximately 70% of total water used in the Palestine.

One of the main strategic objectives for MoA is protecting Palestinian water rights and agricultural water share. This objective will be enhanced by increasing of water availability and ensure optimal use and sustainable management of water resources.

The agricultural law 2/2003 stated the responsibilities of the ministry in (**Chapter Two, Article.2, Responsibilities of the Authority**) regarding the general strategies of the agricultural sector and to insure the full enforcement of the agricultural law. The MoA provides planning for agricultural development and extends services influencing irrigation water use and protection of water quality. These activities have direct impact on water demand. The MoA is also responsible for reviewing and issuing permits for new irrigation

water wells pending with PWA approval about the new wells as stated in (**Part Four, Chapter Four, Agricultural Water, Article.54, Point.8**) of the agricultural law.

Chapter Four of Section Two of the agricultural law covers the agricultural water by two main articles; **Article.54** stated that the ministry should set the general water policy required for the agricultural sector in cooperation with PWA mainly and others. But, **Article.55** prohibited neither the irrigation of crops by un-recycled wastewater nor use it as fertilizers according to the public health law 20/2004 except accordance to the national standards and conditions of use stated by the ministry in cooperation with other related ministries.

One department in the structure of MoA has the responsibility of water and irrigation. **Sector of Irrigation** is the responsible for estimating the annual crop water requirement. And, **Sector of Water** manage the pumping process for agricultural purposes and licensing of the agricultural wells in cooperation with PWA mainly and EQA as stated on the agricultural law.

B. Ministry of Health (MoH)

In general, MoH has the responsibility to protect the public health through integrated health system. The Public Health Law outlined the responsibilities of MoH including its role as provider and regulator of the health sector. The law also highlighted the role of the MoH in aspects of public health including ensuring food, water, and environmental safety.

Concerning water and wastewater issues, the public health law through **Article.2** identified that the MoH has the direct responsibilities for regular monitoring of the drinking water to insure its safety for the human usage, and supervising the sewage networks and treatment plants to insure its compliances for the healthy conditions and have no risks on the public health. **Article.42** stated that MoH should define the conditions for collection, recycling, or disposal the wastewater and storm-water, and **Article.45** about the conditions to keep wells, springs, valleys and costal shores safe from any pollution.

It seems that the MoH has the capacity and facilities to monitor the quality of water supply and the treatment plant by the **Department of Laboratories** belong directly to the **Medical Supportive Affairs** unit, and to identify the health hazards that negatively affect the environmental and public health by the **Department of the Environmental Health** which belong directly to the **Public Health Affairs** unit. All the information managed in databases supervised by the **Department of Statistics and Information** belongs to the **Management And Finance Affairs** unit. But, the MoH does not supervise any of the sewage networks neither at the construction period to insure the full applications for the environmental precautions and public health safety factors, or at the operational stage to reduce or prevent the health and environmental hazards.

So, the health and environmental precautions stated by the MoH in cooperation with relevant bodies should be integrated and taken in account in any interventions for sewage, water, and storm-water carried out by the service providers and the operators of these facilities.

The experience and guidance the MoH accumulating impacts directly upon the resource management actions, improving policies and regulations, insure the enforcement of the laws, which will directly improve the environment health and protect the public health by reducing the water borne diseases mainly.

C. Ministry of Finance (MoF)

MoF is the responsible for the financial system of PA. In general, the ministry is responsible for planning the financial policy of the PA and supervising its implementation, insuring the integration between the monetary and financial policy to serve national economy treasury. In particular, MoF share the responsibility with PWA for supervising the grants, dons, assistance, loans, and any other resources that are available to PWA and which the **Council of Ministers** agrees to accept for the management and developing of water and waste-water sector as stated on (**Chapter Six, Financial Resources, Article.21, Point.2**) of Water Law. In addition, the accounts of the Authority shall be audited by MoF and the General Control Institution as stated in (**Chapter Six, Financial Resources, Article.23, Point.3**) of Water Law.

As stated in **Article.3** of the **Decree No.3/2008 for amendment of Law No.7/1998** about **Organizing of the General Budget & the Financial Affairs**, the **Accountant General** in the ministry will be in charge for the following:

1. Financial planning and expected monetary flows.
2. Monetary management and banking arrangements for the organization PNA.
3. Management, organizing, and control of different funding sources.
4. Management of the bank accounts of the PNA.
5. Manage the financial assets of the PNA.
6. Management of public debt.
7. Management of grants and loans.
8. The implementation of the general budget of the PNA.
9. Accounting and reporting.

In addition, the ministry through the **General Accountant** has the responsibility for establishing rules, regulations and procedures governing the implementation of the general budget and the budgets of local bodies and special budgets of public institutions, and

compiling of annual and periodic accounts for the financial transactions of the PNA, local bodies, special funds, and public institutions as stated on **Points 2&4, Article.41 of Law No.7/1998**.

Other main department in the ministry is the **General Budget Department**. As stated in **Article.20 of Law No.7/1998** and **Article.4 of the Decree No.3/2008**, the department has the following responsibilities and tasks:

1. Preparing the annual general budget of the ministries and public institutions, and the PNA institutions' budget including the budget of funding.
2. Carrying out the required studies and research to prepare the general budget.
3. Study the manpower needs of ministries and public institutions at various levels.
4. Participation with other competent authorities in preparing of development plans.
5. Access to all documents, contracts and financial accounts of ministries and public institutions.
6. Specify the criteria for measuring the performance level of implementation the different projects and programs which have allocated budgets in the general budget law.

This department should consider the estimates of revenues, expenses, and lending in consultation with the relevant ministries and public institutes according to **Article.30 of Law No.7/1998**.

All the revenue, loans, grants and other receipts of the PNA reserved in the **General Treasury Account**, and used to pay all the financial payments for the PNA except any conditional agreements or legal contracts as stated on **Article.11&17 of Law No.7/1998**. With related to water sector, all monies collected by PWA shall be deposited in the **General Treasury Account** which is administered by MoF as stated on (**Chapter Six, Financial Resources, Article.23, Point.1**) of Water Law.

The ministry has the authority to inspect at any time the accounting records of income and expenditure of all ministries, public institutions and private funds according to **Article.63 of Law No.7/1998**.

The ministry also shall figure out and implement the financial policies as tool for stabilization of the economic situation, investments stimulation, and encourage the private sector to ensure growth in national income and create jobs and raise living standards. This will open the door for the private sector participation at the national financial system for the different authorities and public institutes and will enhance the developing of water and waste-water sector.

D. Ministry of Local Government (MoLG)

The MoLG is the leading ministry supports Local Government Units (LGU) to increase its capacity and resources development towards achieving citizen's welfare and practices to achieve sustainable development for infrastructure components within a good local governance framework.

The ministry is the key link between the national government and the municipal Local Government Units (LGU). The MoLG represents the municipalities and also joint service councils (JSC) in national decision making and is aware of their specific development requirements.

The **Palestinian Local Organizations Law No.1/1997** regulating the system of the ministry and its bodies. According to **Article.2** of law, the ministry is the direct responsible to define the general policy of the Palestinian local councils, supervising their duties, the financial control, and the administrative and legal process for the formation of these bodies. In addition to the technical and administrative work related to the organization and regional planning in Palestine. Upon the recommendations of the ministry, the Council of Ministers issues a list organizing the structure of the local bodies and identifying there limits as stated in **Article.4** of the local organization law.

Related to water sector, MoLG is involved ,as coordinator and responsible about all the local bodies within its region, in water supply for drinking or other purposes, establishing of the local sewage and public toilets, in addition to control of the public health in coordination with other competent agencies according to (**Article.15, Part. A, Points.3,5&9 respectively**) of the local organization law. It is also involved in processing operator license applications.

In addition, MoLG should enhance, as coordinator, the Public Private Partnership (PPP) and promote this relation between the LGUs and the private sector. This aims to support the developing strategies at the local level and strengthening its monetary system by improving the cost recovery side as stated in general by (**Article.15, Part. A**) and mainly in **Point. 26** of the same article of the local organization law. This will open the door for water and wastewater utilities to operate its facilities within the framework of the PPP.

As direct responsible about the national entities and organizations, the ministry should state the general policy includes the duties for the national local entities and supervise their tasks as stated on **Article.2** of the Law No.7/1997. As stated in **Article.15, Point. C**, the minister has the authority to establish or resolve the Common Council of Services (CCS) for a group of local entities, and issue the Basic Law regulates its work. So, the minister has the authority to resolve the existing council for the southern municipalities in Palestine which is CMWU and issue a decree to limit the number of members in this council.

The role of MOLG as local government coordinator and its experience in planning at the LGU level make it a strategic stakeholder in the development of a water management program.

E. Ministry of Planning and Administrative Development (MoPAD)

The ministry should lead the development process, manage its implementation, and monitor the results at the national level in coordination with the ministries and institutions. In addition, the ministry shall support the various plans and programs and follow-up in coordination with the local parties on one hand and with international donors on the other.

The Council of Ministers' **Resolution No. 228/2004, Structural and Functional Organization of MoPAD** stated in **Article.1** that the ministry shall draw up plans of development taking into account the specificity of Palestinian aspirations with involvement of relevant institutions in the various sectors and approval of such plans and coordinate financing and implementation and follow-up with all local and international stakeholders.

Article.2 of the resolution stated the general goals of the ministry mainly for improving the quality of living and preservation of the national resources and capabilities and develops these resources. In addition to promote the social justice especially at the level of infrastructure services and builds modern and effective Palestinian institutions.

Article.3 of the resolution, the ministry is working to achieve its goals by various mechanisms as identifying the needs and priorities of national development, developing the policies, objectives and strategies, coordination of sectorial priorities within the various comprehensive plans and programs and provide periodic follow-up, organizing the legislative work of the various Palestinian institutions and proposed limits of its powers and functions, and Providing funding, technical, and technical support for development projects and programs in coordination with various ministries.

To achieve these goals, the ministry is working to coordinate the planning and development process among ministries and the various institutions at the national level, and recommend to the Cabinet for issuance any necessary law or take action to achieve its objectives or increase the effectiveness of economic and social development as stated on **Article.4** of the resolution.

The resolution mentioned the structure of the ministry, its departments and directorates and duties for each one. In particular there is one directorate within this structure named the **Infrastructure Planning Directorate (IPD)** as stated on **Part.2, Point.1** of **Article.20** of the resolution. The IPD directly following-up policies, programs and plans for the

infrastructure sector in coordination with ministries and agencies to be integrated with the national plan. The directorate has four departments dealing with environment, communications, information technology, natural resources, public local authorities, housing, and transportation. One of which is **Natural Resources and Environment Department** that the IPD interfaces with three sectors including the water and wastewater sector. This department shall be involved through the ministry with the revision and approval of the general water policy considering the developing and utilization of water sources, and integrating this policy within the general national policy and the development plans and programs in coordination with the NWC since it is the main responsible for sanction general water policy and the development and utilization of these sources as stated in **(Chapter Three, the National Water council, Article.9, Points.1&2)** of water law. Unfortunately, this task is not functioning yet since 2006 at least because of the NWC did not handle its tasks since its establishing. This cause the general water policy in lines only without any practical steps in the ground except some minor activities which protracted the development process of water sector and keep it over stressed to cover the continuous increasing needs.

IPD should work with other ministries and relevant bodies and participate in coordination of institutions policies to be linked with adopted policy of the infrastructure sector. In addition, the directorate shall ensure that the infrastructural plans and programs for each relevant ministry commensurate with the approved policies. Also, it involved with the sectorial institutions to work with non-governmental institutions and organizations to identify projects in line with the approved policies.

In this area, the ministry coordinates in particular with the MoF and ministries of direct contact with the public for supervising the fund securing progress, and supervision the completion of the project and impact assessment as well as evaluating the changes in the priorities according to **Part.2, Point.3** of **Article.20** of the resolution.

The ministry commitment to build a strategic partnership between the government, civil society and the private sector by strengthening channels of communication at the community level then at the society level, through the consolidation of the accountability and transparency principles at all levels. This enhancing investments in building, operation and maintenance of the water and wastewater facilities either by the national investments or by supporting from the private sector and give the chance for PPP to be integrated as tool for developing the infrastructure sector.

The above mentioned ministries are the main agencies with a direct relation to the management process and developing of water sector. Also, other ministries shall share these responsibilities by utilizing its powers to insure the availability of the required sources and enhancing the applying of the relevant policies and regulation on the ground. These ministries are Ministry of National Economy (MoNE) and Ministry of justice (MoJ)

which has an indirect relation to water sector developing, protection and management and will detailed below.

F. Ministry of National Economy (MonE)

The ministry contributes to for the Palestinian national welfare by creating a highly supportive enabling environment for private sector development by providing a wide range of high-quality services responsive to private sector needs, and insure private sector participation on the national economic policy-making in coordination with the relevant bodies. The general objectives and goals of the ministry are summarized in:

1. Providing fair services based on the local legislations and regulations especially to the private sector.
2. Creating a mutual links with regional and international organizations, in addition to trade agreements in favor of the private sector.
3. Provide financial and technical assistance to the private enterprises.

In order to achieve the above mentioned goals, the ministry shall undertake its responsibilities according to the Basic Law and its amendments primarily and the other economical laws and legislations. Mainly, the ministry shall cooperate with private sector institutions, ministries, and other related bodies for economic policy-making. In addition to company registration, commercial registration, business agencies, licensing the industrial facilities, supervising the consumables, and price controls.

A set of economical laws and decisions have been issued on private sector investments. The **Law No. 6/1995** about **Encouragement of Investment** stated in **Article.1** for establishment of the **High Palestinian Body to encourage the Investment** has the responsibility to create or add new economical investments. This law followed by the **Law No.1/1998** about **Encouragement of Investment in Palestine** which was amended by **Presidential Decree in 2011**, aimed to achieve the development priorities by investment in any of the national economic sectors as stated on **Article.2&3**. While **Article.4** of the law and the decree categorized the projects that have exemptions and privileges set forth in the law. This article did not contain category for water and sanitation sector. But according to **Point. J** of **Article.4** of the decree, to add water & sanitation sector, it must be approved by the Council of Ministers upon the recommendation of board of director of the high Palestinian body. This issue shall be considered in parallel with the allocation of funds for investment in the water sector which shall be approved by the NWC as stated in (**Chapter Three, The National Water Council, Article.9, Point.5**) of water law.

G. Ministry of Justice (MoJ)

The ministry is the direct responsible for all administrative matters relating to the judiciary, law, and courts. The Ministry is considered the **Judicial Authority**, and has a central responsibility in the justice sector enhancing the rule of law and the stability of the legal system in coordination with other parties. So that the ministry is working in accordance to an established policies and regulations to, promote and enable the civil and criminal legal systems in addition to strengthening the functioning of the public institutions.

Chapter Six of Basic Law 2003 and its amendment in 2005 stated the general bases of functioning of the **Judicial Authority**. The functions of the authority are conducted by the different types of courts according to **Article.97** of the law. And, **Article.106** of the law stated that the judicial rulings shall be implemented. Refraining from or obstructing the implementation of a judicial ruling in any manner whatsoever shall be considered a crime carrying a penalty.

The **Judicial Authority Law No. 1/2002** regulated specifically the administrative sides and stated the detailed principles of the functions of the judicial authority at all levels. Article.67 of the law stated that the **Public Prosecution** shall exercise the jurisdiction and authority granted by the law.

The authority assisted by the Palestinian Police Forces which considered as a tool to enforce the judicial decisions at the ground according to their power limits as stated by the Amended Basic Law 2005 or any other relevant laws and regulations. In particular, the ministry shall work to enforce the provisions of water law mainly the violations and sanctions stated in (**Chapter Ten, Violations and Sanctions, Article.35**) without derogation from any more onerous punishments provided for in other law. In addition, the court may decide that anyone shall pay the costs of the damages and to remove its causes and consequences and return the status to what it was before as stated in (**Chapter Eleven, Final Provision, Article.36**) of water law.

4.3.2 Authorities

Currently there are two main authorities have a direct responsibility about water resources regulation and management at the legal level which are PWA and EQA. But one main authority shall be integrated with the structure management which is the Palestinian Energy Authority (PEA) with an indirect responsibility in the management process. But according to the current needs and shortage of the energy sources which is required for the continues operation of the different facilities as water wells and desalination & wastewater treatment plants this authority shall be considered as one of the main players in this management process. **Figure (4.7)** segregated the proposed authorities to a direct and indirect responsible according to its duties.

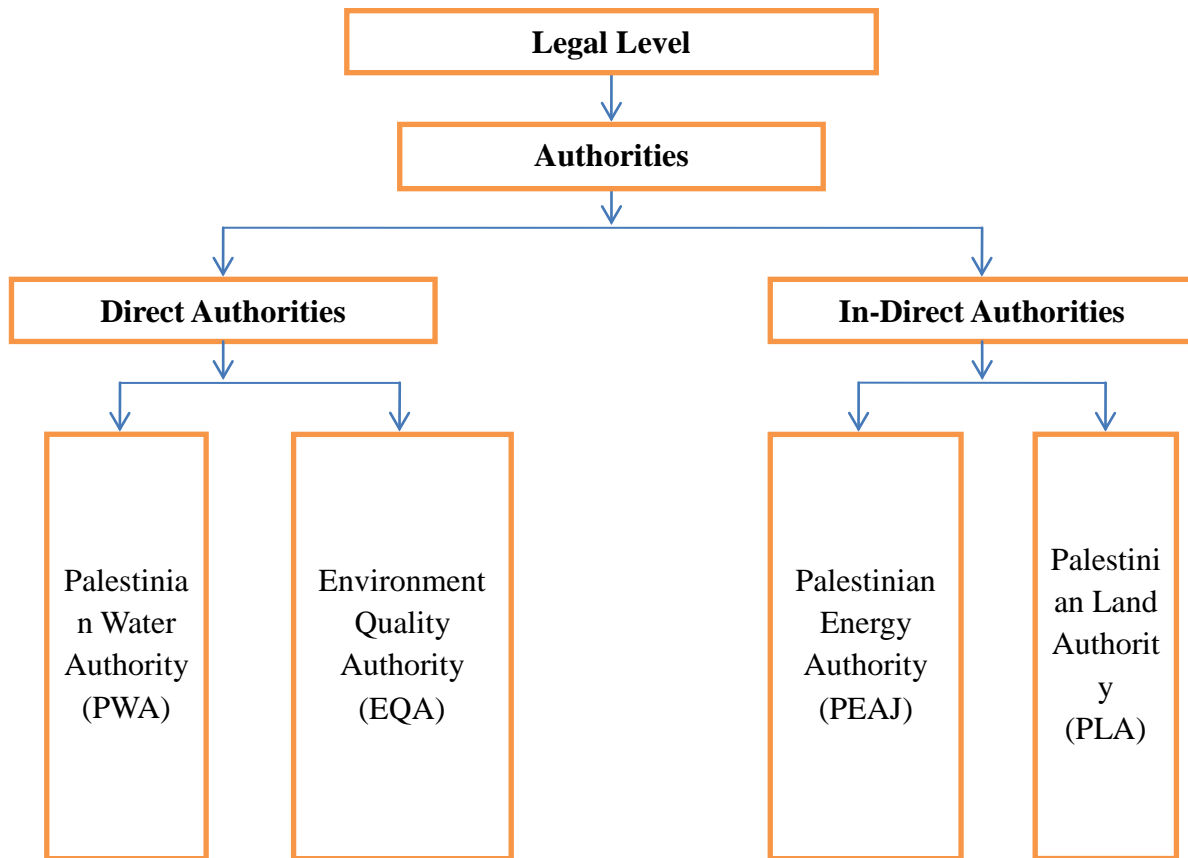


Figure 4.7: Segregation of the Proposed Authorities at the Legal Level.

A. Palestinian Water Authority (PWA)

The Palestinian Water Authority (PWA) was established under **Presidential Decree No. 90/1995**, which stated in **Article.1** and under the provisions of Water Law 3/2002 according to (**Chapter Two, Water Authority, Article.6, Point.1**) which stated that a public institution called “**Water Authority**” shall be created by virtue of this law. The authority derives its powers from **By-law No. 2/1996** which was revealed by **Water Law No. 3/2002** as stated on **Article.43** of the law.

PWA is a progressive organization committed to secure environmentally sound and sustainable development of water resources through efficient and equitable strategic water management plans. It is the regulatory body for water resource management, utilization and development. According to **Article.7** of the water law, PWA shall exercise the following tasks and responsibilities in coordination and cooperation with the relevant parties as the responsibilities for each part.

1. It shall have full responsibility for managing the water resources and wastewater in Palestine.
2. Setting the general water policy and working to implement it in coordination and cooperation with the relevant parties, and presenting periodic reports concerning the water status to the Council.
3. Surveying the different water resources, and suggesting allocations of water and determining the priorities of usage.
4. Creating reservation areas for protection from the danger of pollution, and exercising oversight and supervision over such areas, and approvals for transfer of water between the different geographic areas.
5. Licensing the exploitation of water resources including the construction of public and private wells, regulating them, water exploration, drilling exploratory, testing and production wells, and any other matters or activities relating to water or wastewater, in cooperation and coordination with the relevant parties.
6. Studying water and wastewater projects, and projects that integrate them, and setting design standards, and quality assurance, and technical specifications, and to control its implementation.
7. Rehabilitating and developing water departments for the bulk water supply at the level of the different national governorates, considering them national water utilities, and setting their tasks and responsibilities in accordance with regulations that are issued by the Cabinet of Ministers for this purpose.
8. Coordination and cooperation with the relevant parties to set plans, and programs for regulating the use of water, and preventing wastage, and conserve consumption, and carrying out public awareness campaigns regarding this aspect.
9. Supervising the profession of well drilling and qualifying contractors in the field of constructing water facilities in accordance with procedures that are set by the law.
10. Setting plans and programs for training the technical staff working in the water sector to develop the management of water resources and supervise its implementation and development.
11. Working towards achieving a fair distribution and optimal utilization in order to ensure the sustainability of ground and surface water resources through cooperation and coordination with the relevant parties and finding solutions and suitable alternatives in case of emergencies.
12. Regulating and supervising research and studies relating to water and wastewater, and following up with the concerned and specialized parties.
13. Rehabilitating the centers, for researches, and studies, and training, working in the water sector in accordance to the procedures to be set by the regulations referred to in paragraph 7 supra.
14. Participating in setting approved standards for the water quality for the different usages in cooperation with the relevant parties and insuring promulgation.
15. Working to develop and coordinate programs for international, regional, and bi-lateral technical cooperation in the field of water resources; holding conferences,

and seminars, and representing Palestine in regional and international meetings in this field.

16. Preparing draft laws and regulations and issuing directives concerning water resources and executing them, and giving opinions with regard to the technical aspect in all disputes relating to water resources.
17. Any other tasks that are to be assigned by virtue of applicable laws and regulations.

According to **Article.15 in Chapter Four** of the water law, the Head of PWA shall have the following tasks and responsibilities.

1. Organizing and managing the Authority and supervision of all its employees, and its different directorates.
2. Preparing the budget and the financial reports and presenting them to the official bodies to approve, and confirm them in accordance with proper procedures.
3. Implementing the decisions of the Council.
4. Signing water agreements on behalf of the government, in accordance with the provisions of the prevailing laws and regulations.
5. Participating in activities aimed at improving regional and international cooperation in the field of water and wastewater.
6. Preparing periodic reports about the activities of the Authority, and its level of performance, and suggesting solutions to confront the difficulties and obstacles facing the progress of the work.
7. Any tasks assigned to him by the Council or the Council of Ministers.

Also, the head of PWA is shall be the secretary of the Council as stated in (**Chapter Three, National Water Council, Article.8, Point. Third**) of water law. And shall have the task of preparing the agenda for the meetings of the Council, for issuing the written invitations, and for drafting its resolutions and implementing them according to (**Chapter Three, National Water Council, Article.10, Point.3**) of water law.

In addition, the following additional tasks have been identified by the provisions of water law:

1. PWA is the responsible for licensing and all matters pertaining thereto, including permits as stated in (**Chapter Five, Licensing and Tariffs, Article.18**) of water law.
2. The authority may amend, suspend, or cancel the license or the permits if the licensee fails to meet the conditions of the license or contrary to the provisions of the Law according to (**Chapter Five, Licensing and Tariffs, Article.19**) of water law.
3. The authority shall set the United Tariff System and amend this system from time to time as stated in (**Chapter Five, Licensing and Tariffs, Article.20**) of water law.

4. PWA share the responsibility with the MoF to supervise directly its especial financial account which includes the approved financial resources as stated in **(Chapter Six, Financial Resources, Article.21, Point.2)** of water law.
5. The Authority may contract with regional utilities to operate alternative water systems according to **(Chapter Seven, Regional Water Utilities, Article.27)** of water law.
6. The authority shall have the right to supervise and control regional utilities and to take all the procedures necessary regarding them for violating the provisions of this Law or the regulations or directives issued thereunder as stated in **(Chapter Seven, Regional Water Utilities, Article.28, Point.2)** of water law.
7. The Authority is responsible for protection of water resources and the prevention of its pollution. **Article.29 in Chapter Eight (Protection of the Environment)**, stated that PWA shall carry out the following actions:
 - 7.1. **Point.1:** participate in regulating the use of agricultural, in cooperation with MoA, and industrial materials, in cooperation with MoI, which may cause pollution to the water resources or its supply systems.
 - 7.2. **Point.2:** participate in preparing special guidelines for the environmental impact assessment for any activity relating to water resources or their supply systems in cooperation with EQA.
 - 7.3. **Point.3:** participate in preparing special mechanisms for crisis management when there is a draught or flooding or a plague that is spread through water, or general pollution.
 - 7.4. **Point.4:** Participate in preparing a list has the names of pollutants, which require licensing, and compensation for damages resulting there-from.
8. The Authority may issue a decree to halt the production or supply of water if it appears that its source or supply system is polluted, and it may close the source or system if pollution continues as stated in **(Chapter Eight, Protection of the Environment, Article.30)** of water law.
9. The Authority may consider any area that contains ground waters a protected area, if the quality or quantity of water is in danger of pollution, or if carrying out the water policy requires such action, on condition that PWA shall provide alternate water resources according to **(Chapter Eight, Protection of the Environment, Article.31, Point.1)** of water law.
10. In case the polluter refuses or fails to remove the pollution, the Authority must remove the pollution and carry out the cleaning operations on the expense of party causing the pollution, which shall be levied from him in accordance with the Law for Collecting Public Monies as stated in **(Chapter Eight, Protection of the Environment, Article.32)** of water law.
11. **Article.33 in Chapter Nine (Control and Inspection)** stated that the Authority shall carry out the following tasks of control over the water resources including:
 - 11.1. **Point.1:** keeping records that contain detailed information about water usage and licenses.
 - 11.2. **Point.2:** licensed Operators of water or wastewater facilities must give periodic reports concerning the production, distribution, or use of water at the times set by PWA.

- 11.3. **Point.3:** PWA shall have the right to set the necessary rules and standard for inspecting, calibrating and repairing damaged meters and to control the leak of water.
12. **Article.34 in Chapter Nine (Control and Inspection)** stated that PWA:
 - 12.1. **Point.1:** PWA may ask for requisite of land and property or enter the property of others in order to carry out its activities.
 - 12.2. **Point.2:** PWA has the right to inspect water resources and supply systems, and any place where pollution is suspected and to enter any private or public property or building to accomplish this purpose in accordance with proper procedures.
13. PWA has all rights to supervise, regulate and plan for the water resources under the powers of this law as stated in (**Chapter Eleven, Final Provision, Article.40**) of water law.

So, PWA shall act as regulator for water and wastewater sector within its area of responsibilities stated by the water law in coordination with other competent agencies. But in practical, PWA do not have the full powers to act as regulator to fulfill these duties on the ground or to develop and enhance the national water policy and strategies to be fitted with the local needs due to the following reasons:

☒ **High Level of Management**

According to **Article.6** of water law, PWA is a public institution which subjected directly to the Chairman of the Palestinian National Authority. This cause a high level of management as mentioned before which reflected negatively on the performance of PWA to fulfill its objectives and to exercise its responsibilities as stated by water law, which affected totally on development of the water and waste-water sector.

To avoid this problem, PWA could subject directly to the **Prime Ministers** the chairman of the Council of Ministers. According to the **Amended Basic Law 2005**, the Council of Ministers has the responsibility to establish or dissolve institutions, appoint their heads, and to specify the respective areas of responsibilities of the institutions. In addition to, the Prime Ministers have the power to oversee the work of the public institutions dependent on the government. This will enhance PWA to act as a ministry and has a direct contact with the Council of Ministers which enables PWA to present its needs directly to the Council of Ministers without the need for a link or a representative.

☒ **The National Water Council (NWC)**

In the current framework, NWC is the link between the Council of Ministers and PWA. The current composition of the NWC, the inability to meet each six months as stated by the Water Law, and thus its inability to carry out its duties in water sector, make the existence

of the NWC a real obstacle in front of the PWA to perform its functions, which often entails decisions from the NWC especially in the issuance of laws and regulations that require the consent of the Council of Ministers.

To overcome this issue, either the current composition of the NWC shall be restructured, or the PWA could be linked directly with the Council of Ministers, and the NWC will be not anymore necessary in the management structure of water sector as proposed before.

☒ **The Political Situation in Gaza Strip**

PWA developed a relatively strong presence in Gaza Strip, which is now effectively suspended due to the political situation in the strip and the takeover of PWA offices in 2008. This situation loosed the PWA its power to:

1. Implement the current water law, and enforce the general water policy and regulations at the local level.
2. Contact the Council of Ministers to discuss and approve the draft laws and policy, or to issue any required decrees for better water sector management.
3. Develop the national utilities for the service provision at the national or local level. As direct result, the PWA loss its enforcement to inspect the Water Supply Service Providers mainly Utilities, and Municipalities.
4. License the exploitation of water resources and supervise the well drilling according to standards. This encourages the construction of enormous number of illegal private wells discharging intensive quantities playing a direct role in the deterioration of the ground aquifer in the strip.

This point can be overcome only by the National Reconciliation, and the return of the normal political situations that assess the enforcement of the water law and the general policy on the ground for better and strong management of water sector.

B. Environment Quality Authority (EQA)

The Environmental Quality Authority (EQA) is the regulator of the Palestinian environmental sector. At the beginning, the environmental sector was regulated by the Minister of Environmental Affairs (MoEnA). In 2002, the **Presidential Decree No.6/2002** was issued to establish the authority. This authority shall be subjected directly to the Council of Ministers and has the same duties and functions of the ministry before.

As stated by **Article.5** of the environmental law, this law shall guarantee the right to every individual to live in a sound and clean environment and enjoy the best possible

degree of health care and welfare, and protection of the country's natural fortunes and economic resources, besides the preservation of its historical and cultural heritage without any harms or side effects that are likely to occur sooner or later as a result of the variant industrial, agricultural or constructional activities, with an impact on the quality of life and basic ecosystems such as air, water, soil; marine resources, animals and plants.

The authority shall control and regulate all the environmental components according to the **Environmental Law No.7/1999** in coordination with the competent agencies to achieve the following general objectives according to **Article.2** of the law:

1. Protection of the environment against all forms and types of pollution.
2. Protection of Public health and welfare.
3. Insertion of the bases of environmental protection in social and economic development plans; and encouragement of sustainable development of vital resources in a manner that preserves the rights of future generations.
4. Protection of bio-diversity and environmentally sensitive areas, as well as improvement of environmentally harmed areas.
5. Encouragement of collection and publication of environment-related information to raise public awareness of environmental problems.

As mentioned before, the authority is the regulator for the environmental sub-sector and shall control and regulate all the types of environmental components including the basic ecosystems. **Title II** of the law targeted the **Environmental Protection** including the Water Environment in **Chapter Three of Title II. Article.28**, and **Article.29** of the law stated that the authority shall specify the standards for the quality and characteristics of drinking water and set standards and norms for collecting, treating, reusing, or disposing waste water and storm water in a sound manner, which comply with the preservation of the environment and public health in coordination with the competent agencies respectively. **Article.30** of the law insured that no person is allowed to discharge any solid or liquid or other substance unless such a process conforms to the conditions and standards that the competent agencies determine.

As regulator, EQA shall set standards to determine which projects and fields shall be subjected to the EIA studies, and prepare lists of these projects and set the rules and procedures of EIA as stated in (**Part IV, Environmental Impact Assessment, Licensing, Inspection and Administrative Procedures, Chapter.1, Environmental Impact Assessment, Article.45**) of the agricultural law, in coordination with PWA mainly for the projects in relation to water and wastewater sectors, and MoA if the projects have relation with the agricultural water sources. And according to (**Part IV, Environmental Impact Assessment, Licensing, Inspection and Administrative Procedures, Chapter.2, Licensing, Article.46**) of the agricultural law, the authority shall determine the activities and projects need to obtain an environmental approval before being licensed including the restricted areas according to (**Part IV, Environmental Impact Assessment, Licensing,**

Inspection and Administrative Procedures, Chapter.2, Licensing, Article.47) of the agricultural law, mainly the reservation areas for protection from pollution created by PWA as stated in **(Chapter Two, The Water Authority, Article.7)** of water law. Thus, all the water and wastewater projects shall not be licensed by PWA until all of these projects were environmentally approved by EQA as stated in **(Part IV, Environmental Impact Assessment, Licensing, Inspection and Administrative Procedures, Chapter.2, Licensing, Article.48)** of the agricultural law.

In addition, EQA shall prepare emergency plans to combat environmental disasters and shall perform environmental monitoring in order to gather information about the various environmental elements which including water sources according to **(Title VI, Final, Provisions, Articles.78+79)** of the environmental law accordingly, in cooperation with PWA about the emergency plans about water and wastewater sources, MoA for the agricultural water sources, and MoH for the public health protection.

C. Palestinian Energy Authority (PEA)

The Palestinian Energy Authority (PEA) or as known in Gaza Strip **Palestinian Energy and Natural Resources Authority (PENRA)** was established under the **Presidential Decree No. 170/1994** then by the **Law No.12/1995**. As stated in **Articl.2** of law, the PEA was established with a juridical personality, and shall be subjected directly to the Chairman of the Palestinian National Authority. **Article.3** in the law identified the responsibilities of the PEA mainly, providing the energy for all consumers and different usage either by generating the energy locally or purchasing from the neighboring countries at the same time promoting regional electrical interconnection system, and licensing the generation and transmission of the energy.

The role of the PEA in the management of water and wastewater sector is limited to provide the required amounts of energy required to run and operate the different facilities municipal wells, pumping stations, and mainly water and waste-water treatment plants which required a huge amount of energy compared with the other facilities. In this side, the PEA should insure the continuous availability of the required amounts of different energies from local, regional, or international sources. In order to achieve these goals, the PEA can buy any electrical projects and construct any required energy facilities. In addition, the PEA has the right for the technical control on the establishment, operation, and maintenance of the electrical projects required to obtain the functions from the water and waste-water facilities. But at the local level, PEA should insure providing all the citizens of Palestine with reliable electricity at affordable prices especially at the same time of water availability in the municipal water networks.

In the other side, water is considered one of the non-living natural resources. Therefore, the PENRA has an indirect responsibility in water sector management. Its responsibility

limited to licensing the exploration of the natural resources which include the groundwater aquifer sharing this responsibility with PWA.

D. Palestinian Land Authority (PLA)

The PLA established by **Presidential Decree No.10/2002** as a legal entity subordinate to the Council of Ministers. But after that the PLA subject directly to the Chairman of the PNA according to **Article.2** of the **Presidential Decree No.6/2010**.

According to **Article.4** of the **Possession Law No.2/1953**, the Council of Ministers could allocate and possess any land for the public benefits temporary or permanent, and define the rights and limits to use those lands. All the decisions should be approved by the Chairman of the PNA.

As stated on **Article.5** of the **Presidential Decree No.6/2010**, the authority shall follow-up the execution of the approved decisions for allocation and possession lands for the public benefit adapted with the land policy.

The role of the PLA in the water and wastewater sector management is limited to allocate the appropriate lands for construction of the strategic water and waste-water facilities either for the headquarters of the relative entities or especially the water and sewage treatment plants. The authority shall follow-up the enforcement of these decisions in coordination with other relevant bodies.

4.7 Service Level

This level is occupied by the local municipalities and the local councils with a direct relation with the consumers and citizens. In addition to the United Nation for Refugee Working Agency (UNRWA) the main responsible for water and sanitation service provision in camps in Gaza Strip in addition to other services. **Figure (4.8)** shows the main agencies at this level.

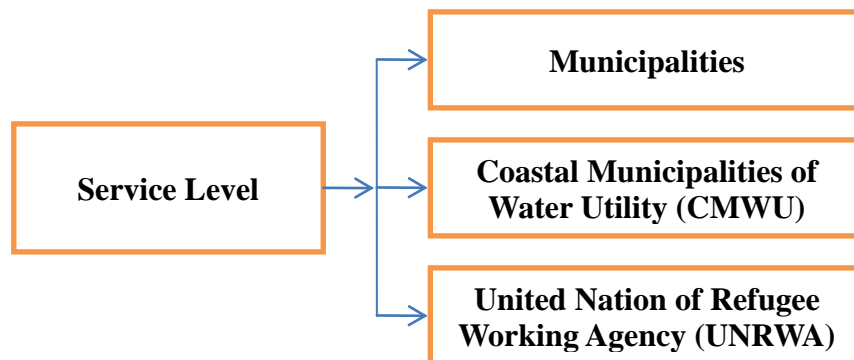


Figure 4.8: The Main Agencies Occupied the Service Level.

4.5.1 Coastal Municipalities of Water Utility (CMWU)

CMWU is a Common Council of Services (CCS) for the administration of water and sewage entities of the south governorates of Palestine. Efforts started since 1996 to establish the CMWU. After signing the agreement by the existing 25 municipal entities in Gaza Strip in 2000, CMWU was established as a council with the same duties of the local municipal entities in the Strip concerning management of the water and sewage sub-sectors. And in accordance to the authorities and powers vested to the Minister of Local Government under **Article.15 Point. C** of the **Local Organizations Law No.1/1997**, the Basic Law of CMWU was issued then approved by the minister in 2005.

As stated in **Article.6** of the Basic Law, the Council of CMWU has the following duties and goals:

1. Pumping out water, providing water and sewage services; disposition, supply and distribution of water resources to consumers for household, commercial, industrial, agricultural purposes and to any other party.
2. Taking all actions needed to dispose of and distribute water supplies according to the standards set by the competent parties and pursuant to effective laws.

3. Management and promotion of the water, drainage and sewage utilities; including the treatment of sewage and rain water in accordance with technical standards and with available resources.
4. Collection and utilization of runoff water
5. Owning and operation of water and sewage utilities and establishment of any other facilities necessary to accomplish the Council's goals.
6. Making appropriate plans and putting into use any means that would reduce water and environmental pollution hazards.
7. Transference of title to the assets of local organizations related to water and sewage to the Common Council of Services.
8. Abiding by the quality standards agreed upon with competent parties in the water and sewage sectors
9. Importing all equipment and machinery needed to pump out and distribute water or to treat and recycle water and sewage; as well as setting up, service and maintain the water and sewage infrastructure.
10. Entering into agreements with national, international and regional parties as a means of accomplishing set objectives as well as attaining any rights, concessions and licenses it deems necessary; as well as executing such agreements and making use of rights, concessions and licenses in conformity with the law.
11. Investing surplus proceeds from the water and sewage sector in the manner it sees fit and in consistence with the goals of the Council subject to applicable laws.
12. Engaging in any other acts decided by the Council towards accomplishing its objectives and best interests.

The Council of CMWU shall be composed of all local organizations in the south governorates of Palestine according to **Article.8 of Chapter Two** of the basic law of the CMWU. These organizations shall be the 25 municipal entities who signed the agreement in 2000. And, it was planned that the municipalities will receive technical support services from the CWMU, and will progressively transfer their staff and assets to CWMU. But according to the current turbulent political situation, 10 municipalities retreated from the agreement since 2007, and the rest 15 still authorized CMWU as operational institute in their area. **Table (4.2)** shows the retreated the non-retreated municipalities.

Table 4.1: Retreated and Non-Retreated Municipalities from the Agreement with CMWU.

Municipalities Authorized CMWU as operational institute in their areas		Municipalities retreated from CMWU agreement since 2007	
Name	Population	Name	Population
Rafah	156,332	Gaza	483,869
Al-Nnaser (Al Bayuk)	6,308	Um Al-Nnaser	2,811
Shokat as Sufi	10,732	Jabalia	164,931
Khan-Yunis	180,342	Al Bureij	33,855
Bani Suheila	31,703	'Abasan al Jadida	6,066

Khuza'a	9,147	'Abasan al Kabira	18,413
Al Fukhkhari	5,539	Al Qarara	19,769
Az Zawayda	16,939	An Nuseirat	64,759
Al Maghazi	22,612	Beit Lahiya	64,457
Deir al Balah	60,877	Beit Hanun	38,047
Al Musaddar	1,873		
Wadi as Salqa	4,620		
Madinat Ezahra	3,085		
Al Mughraqa	6,537		
Wadi Gaza (Juhor ad Dik)	2,920		
Source: Al Madina Consultant. (January 2010).			

CMWU should act as service provider for different consumers. But according to the above table, the served population by CMWU is **519,566** which are only **36.7%** of the total population in the Strip. But the rest **896,977** populations (**63.3%**) are still served by the municipal entities. This mean that the CMWU lost its control over a high percentage of water and sewage facilities in Gaza Strip, which reducing its functions as service provider on the ground, and ensuring the ability of the municipalities to have the responsibility for service delivery to the municipal purposes and to any other party, and keep CMWU functions limited to the technical supporting for these entities.

As Operator, CMWU should operate all of the water, drainage and sewage utilities, and should provide the necessary technical maintenance for all local entities. But based on the **Table (4.1)**, CMWU is fully commissioned to act as operator only inside the areas of the same 15 municipal entities authorized CMWU as service provider in their regions. But, CMWU lose its function as operator within the areas of the other 10 municipal entities. In cases of the inability and incapability of the municipal entities to operate and maintain of these facilities, the entities resort to sign agreements with CMWU especially for operation and maintenance (O&M) these facilities as the case in 2008, when Jabalia and Beit Hanun municipalities signed an agreement for CMWU to operate the Northern WWTP and infiltration basin in their areas.

In addition, the first component of CMWU personnel should be the employees working in the water and sewage utilities in all local municipal entities and should be affiliated with the CMWU as stated in **Article.7** of **Chapter One** of the Basic Law of CMWU. But based on the current situation, the employees of 10 municipal entities are not within the structure of the various technical departments of water and sewage services of CMWU.

The board of director of CMWU shall be consisting of nine members. The first component of the board is the five permanent members who represent the five local organizations in Gaza governorates; i.e. Gaza, the North, the Central, Khan Yunis and Rafah, and Gaza Municipality is the Vice-Chairman of the board for the interim period as

stated by **Article.9** of the Basic Law of the CMWU. But, the Vice-Chairman of the board of CMWU was retreated from the agreement and considered out of the board. This cause that the vice-chairman post falls vacant and the board shall call to convene to select a Vice-Chairman from amongst its members according to **Point.6** of **Article.9** of the basic law of CMWU.

The duties of the board of directors were stated by **Article.10** of the basic law of CMWU. Two of the main responsibilities are:

1. Issuing and ratifying any regulations in connection with water import and supply, fixing fees and cost of water and sewage subscriptions and putting them into effect after obtaining the approval of the Minister of Local Government.
2. Drafting and issuance of regulations on the price and cost of water by cubic meter and putting them into effect after obtaining the approval of the Minister of Local Government

According to **Article.26** of the Water Law, the regional utilities hall set the prices of water for different usage, in accordance with the approved tariff system. This Tariff system is a Unified tariff system for water shall be set by PWA according to **Article.20** of the Water Law, and shall be approved by the NWC according to **Point.4** of **Article.9** of the Water Law. And according to **Article.1** of the Water Law, the Water Tariff System is a system based on studied standards in order to set a water tariff. So, these two points mainly shall be set in close cooperation and approved mainly by PWA.

About the General assembly of the CMWU, the Basic Law stated in **Article.17** that the General Assembly shall consist of all 25 local organizations participatory to the Council. But the General Assembly of the CMWU is considered incomplete since 10 out of 25 municipalities out of the agreement and considered out of the General Assembly including Gaza Municipality which has the highest number of the General Assembly votes among all the municipalities with 14 votes. This certainly negatively affects the legal composition and the ability of the General Assembly to shoulder its functions and responsibilities.

About the role of the PWA and its relation with the CMWU, the Basic Law of the CMWU stated on **Point.7** of **Article.22** that the PWA in addition to the MoLG shall supervise the General Assembly electoral process only. But, the PWA shall have the right to supervise and control regional utilities, in cooperation and coordination with the relevant parties, and to take all the procedures necessary regarding them for violating the provisions of this Law or the regulations or directives issued thereunder as stated by **Article.28** of the Water Law. In addition, the National Water Utilities will be established based on the desire of local committees By virtue of the Water Law according to **Article.25** of the Water Law. Accordingly, the Basic Law of the CMWU shall be redrafted to contain clear articles about

the duties of the PWA to supervise and control the regional utilities according to the Water Law mainly and any other relevant laws.

Based on these facts on the ground and according to the external political factors disrupt the performance of CMWU at least partially, the Basic Law of CMWU shall be flexible and adapted with the current situation, with retaining of the main function of CMWU to provide the technical support and the administration of water and sewage departments within the municipal entities of the South Governorates in Palestine. For-that, the area of interests and the workspace of the CMWU should be reduced to be limited to build, operate and maintain of water, wastewater and storm-water municipal networks, water wells, and pumping stations. This will keep CMWU as operator and service provider for domestic water supply and sewage collection at the household (HH) level within the areas of the 25 municipal entities in Gaza Strip which is the main purpose of establishing this council.

In the other hand, and as mentioned before in **Point-3.2.2.8** in **Section.1** of **Chapter.3**, that if the legal shape of CMWU will be changed in the future from CCS to be one of the four regional utilities, the current basic law of CMWU shall be changed to include the provisions of the water law as main reference for its working, and increasing the legal powers of PWA as regulator for the water and wastewater sector under the provisions of the water law.

Now, with the current position of CMWU as CCS it shall have five regional offices in the five governorates in Gaza Strip. Headquarter of CMWU will be in Gaza governorate and will be responsible for service providing within the governorate in addition to its position as headquarter for the other four regional office. Each of these offices will be responsible for service providing within the regional limits of each governorate and all the municipal or local councils within the governorate will follow and will be part of this office.

4.5.2 Municipalities

Gaza Strip has 25 municipalities distributed its services to the residents in Gaza Strip. Each municipality has control within its region identified by a governmental decree, and act under the provisions of the Law No.1/1997 about the Palestinian Local Entities.

More than one million and four hundred capita in Gaza Strip benefit from water and wastewater services provided by the municipal entities. **Table (4.1)** shows the distribution of the served population each municipal entity.

Table 4.2: Distribution of the Served Population by the 25 Municipal Entities in Gaza Strip.

Locality	Municipality	Population
North Governorate		
Jabalia	Jabalia Al Nazlah	164,931
Beit Lahiya	Beit Lahiya	64,457
Beit Hanun	Beit Hanun	38,047
Um Al-Nnaser	Um Al-Nnaser	2,811
Central Governorate		
Gaza	Gaza	483,869
Madinat Ezahra	Madinat Ezahra	3,085
Al Mughraqa	Al Mughraqa	6,537
Wadi Gaza (Juhor ad Dik)	Wadi Gaza	2,920
Deir Al Balah Governorate		
Deir al Balah	Deir al Balah	60,877
Al Bureij	Al Bureij	33,855
An Nuseirat	An Nuseirat	64,759
Al Maghazi	Al Maghazi	22,612
Az Zawayda	Az Zawayda	16,939
Wadi as Salqa	Wadi as Salqa	4,620
Al Musaddar	Al Musaddar	1,873
Khan Yunis Governorate		
Khan Yunis	Khan Yunis	180,342
Bani Suheila	Bani Suheila	31,703
Al Qarara	Al Qarara	19,769
'Abasan al Kabira	'Abasan al Kabira	18,413
Khuza'a	Khuza'a	9,147
'Abasan al Jadida	'Abasan al Jadida	6,066
Al Fukhkhari	Al Fukhkhari	5,539
Rafah Governorate		
Rafah	Rafah	156,332
Shokat as Sufi	Shokat as Sufi	10,732
Al-Nnaser (Al Bayuk)	Al-Nnaser (Al Bayuk)	6,308
Total Population – Capita		1,416,543
Source: Al Madina Consultant. (January 2010).		

The municipal entities are controlled by the MoLG under the provision of Law No.1/1997, which identified in **Article (2)** that the ministry shall:

1. Draw up the general policy, and supervise the duties and specialties of the PLE.
2. Organize the general projects and the general budgets.
3. Organizational, financial, and legal monitoring of the PLE.
4. Carry out the managerial and technical works about the local planning and organization.
5. Set the required bylaws for the PLE in order to carry out their duties under the provisions of law no.1/1997.

In **Article (4)** stated that the structure and the regional boundaries for each PLE shall be organized, cancelled or modified, by a decree from the council of ministers after the approval of the MoLG. But, the change or increase the boundaries for any PLE shall be by a decree from the minister of the MoLG after the recommendation by the same PLE.

Article (15) of the law no.1/1997 stated the different responsibilities and duties of each PLE within its regional boundaries. **Point.3** in this article stated that each PLE shall:

1. Supply water for drinking or any other purposes, and identifying the specifications for the required accessories as water meters and pipes.
2. Organize water distribution process.
3. Determine water prices.
4. Determine the value of water subscription.
5. Prevent pollution of wells, springs, basins and channels. This will enhance the public health epically that each PLE shall protect and monitor the public health as mentioned in **Point.9** of this article.

And, **Point.5** of the same article identified that each PLE shall construct, manage and monitor wastewater systems and public toilets.

Regarding the private sector participation at this level, **Point.13** of **Article (27)** stated that the incomes from the provided services by any PLE including water and wastewater services could be collected by a private contractor.

Finally, the ministry has the power to check all the legal, financial and managerial affairs of any PLE based on **Article (35)** of the law no.1/1997.

But according to the agreement signed by the 25 municipalities in 2000, all the municipalities shall be part of CMWU and CMWU was authorized to act as CCS within the regional limits of all municipalities. For that, the representative for municipalities in each governorate shall be the regional office of CMWU in this governorate and this office is

authorized to act as service provider in this governorate within the geographic limits of each of the 25 municipality.

4.5.3 United Nation of Refugee Working Agency (UNRWA)

Following the 1948 Arab-Israeli conflict, UNRWA was established in 1949 by **United Nations General Assembly Resolution No. 302 (IV)** as a successor to the multi-agency relief operation in Palestine to provide assistance and carry out direct relief and works programs for Palestine refugees. The Agency began operations on 1 May 1950. In the absence of a solution to the Palestine refugee problem, the General Assembly has repeatedly renewed UNRWA's mandate, most recently extending it until 30 June 2014.

Since its establishment, the Agency has delivered its services both in times of relative calm in the Middle East, and in times of hostilities. UNRWA's work exemplifies an international commitment to the human development of Palestine refugees, helping them to lead healthy lives within decent standards of living and enjoy human rights to the fullest possible extent.

UNRWA is one of the service providers in Gaza Strip. It is providing various services for more than 1.1 million registered refugees in the Strip. Around half a million refugee live in the eight refugee camps established by UNRWA. These refugee camps have one of the highest population densities in the world. **Table (4.5)** shows the eight camps, locations and population for each camp.

Table 4.3: Eight Camps in Gaza Strip with Population in each Camp.

Camp	Municipality	Number of Registered Refugees
Jabalia	North	110,000
Beach (Shati)	Gaza	87,000
Bureij	Middle Area	34,000
Nuseirat	Middle Area	66,000
Maghazi	Middle Area	24,000
Deir el-Balah	Middle Area	21,000
Khan Yunis	Khan Yunis	72,000
Rafah	Rafah	104,000
Total		518,000
Source: UNRWA, 2012.		

Source: UNRWA, 2012.

UNRWA provides different services for the refugees in the eight camps mainly the infrastructure and camp improvement. All the camps suffering from lack access to adequate drinking water & sanitation services and infrastructure maintenance. UNRWA shall ensure access to adequate and safe water and sanitation for refugees in camps in an effort to reduce the environmental risk potentially conducive to disease outbreaks in coordination with municipalities at the local level, utilities at the operation and supply level and the other relevant ministries and authorities mainly PWA the regulator of the water sector. All the UNRWA direct relief and works programs shall be carried out in collaboration with local governments as mentioned by **Point.7** of the **Resolution No. 302 (IV)**.

UNRWA as service provider shall coordinate with the regional offices of CMWU the CCS to providing service for the refugee camps within the regional limits of each office, and shall share information about water and waste-water sector in these camps.

UNRWA has been committed to the welfare and human development of Palestine refugees for over six decades based on the international commitments and goals. One of the main goals for UNRWA is to ensure the environmental sustainability at the refugee camps in Gaza strip through mainly sustainable access to safe drinking water and basic sanitation. According to the UNRWA figures, nearly 100% of the refugee camps are connected to public water and 82% are connected to public sewage network.

Figure (4.9) shows the relation between the above mentioned three current service providers.

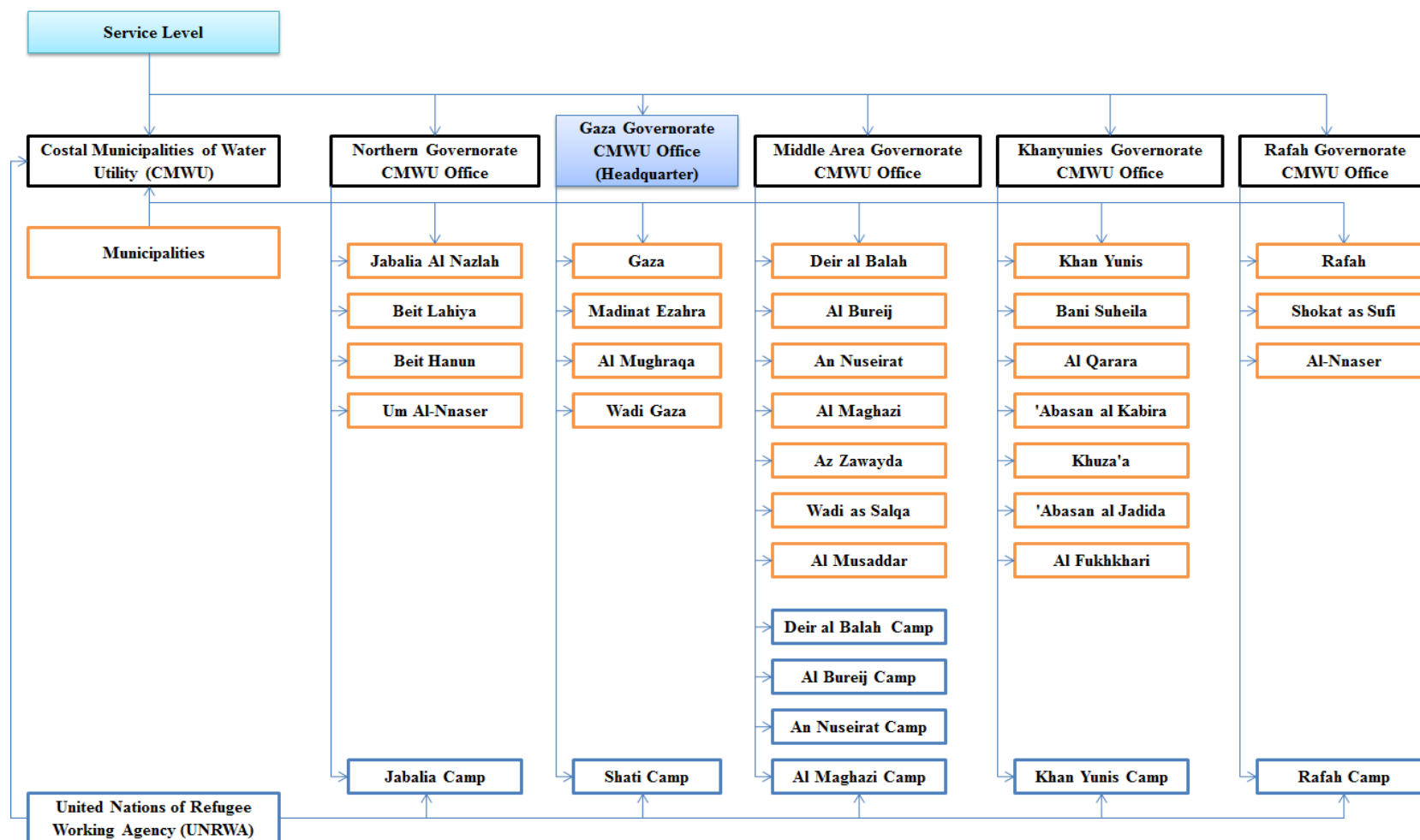


Figure 4.9: The Current Service Providers and the Relation Between Them.

Second Option:

The governance regime will be divided to two main levels as shown in **Figure (4.10)**:

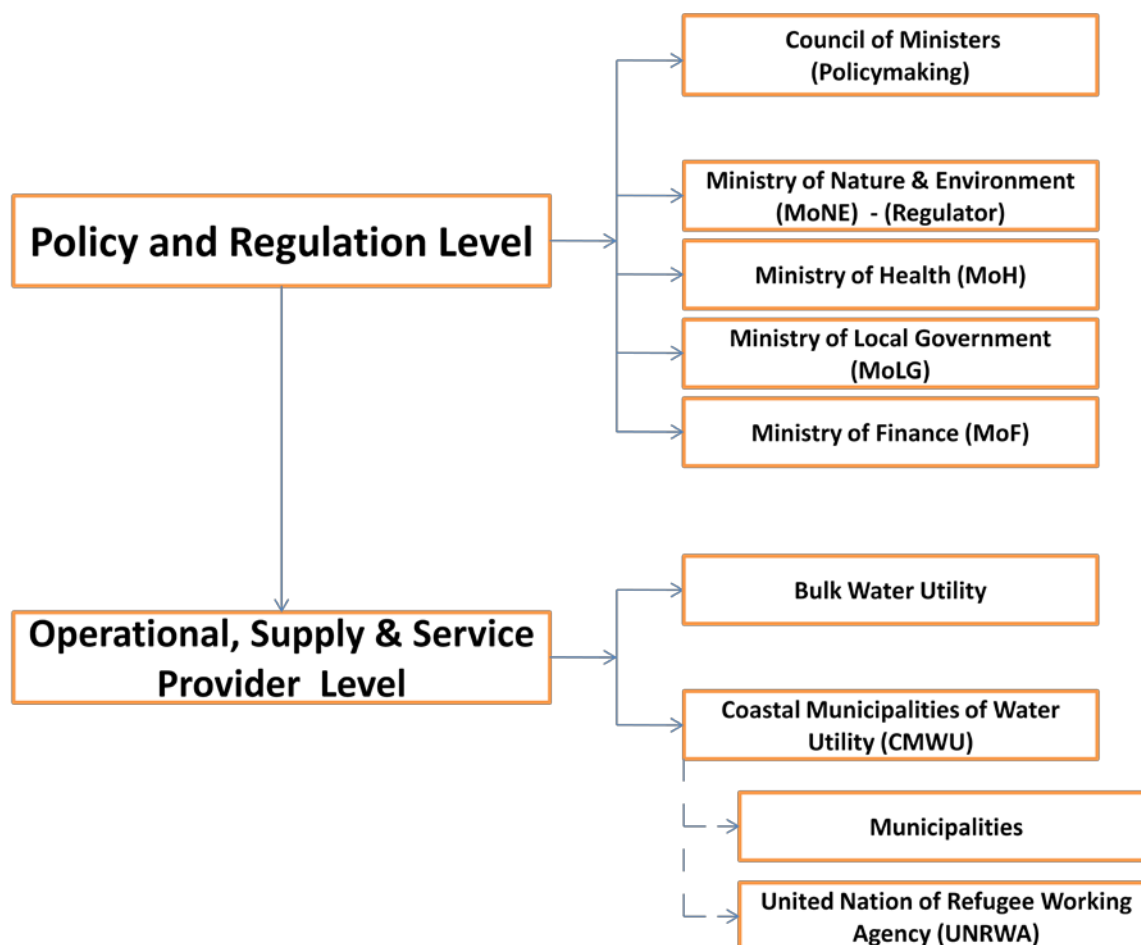


Figure 4.10: Second Option Governance Regime in Palestine.

4.7 Policy and Regulation Level

4.6.1 Council of Ministers

As mentioned above in **Point 4.4.1 (Council of Ministers)**: the council is the policymaking institute of water sector and it's the highest executive and administrative authority and shall revise and approve by-laws and regulations proposed by the Ministry of Nature and Environment (MoNE) the regulator of water sector, in addition to other responsibilities stated above.

4.6.2 Ministry of Nature and Environment (MoNE)

The Ministry of Nature and Environment is a new proposed ministry. MoNE is a result of combination between three current institutes which are: (MoA, EQA/PEnA & PWA). This body will be the regulator for water, waste-water, agriculture, and environment sub-sectors. The combination between these agencies was based on four basic assumptions:

1. Soil is the foundation for agriculture and all of the agricultural activities.
2. Without the water there will not be any human activities as agriculture or domestic activities.
3. Soil and water are two main non-living elements of the ecosystem. In addition, humans are the end users of these elements representing the living elements of this system.
4. These elements shall be interacted in a natural environment. This environment shall be controlled to insure sustainability of these sources.

MoNE will consist of three main specialized directorates:

1. **Water Sources Directorate.** This directorate will replace PWA and will be the responsible for regulating all conventional and non-conventional water sources for all activities including the water irrigation needs based on the duties stated in Water Law No. 3/2002.
2. **Agriculture and Irrigation Directorate.** This will replace MoA and will handle the tasks about agricultural and irrigation activities according to Agriculture Law No.2/2003. This directorate will coordinate with the Water Resources Directorate about the needs and allocations of the water irrigation sources.
3. **Environment Directorate.** This directorate will replace EQA/PEnA and will be responsible for regulating and control the environmental issues according to duties stated in Environment Law No.7/1999.

Each directorate will propose a separate plan for each sector according to its specialization. All of these plans from the three directorates will be integrated in one national plan which shall be approved by the ministry and the ministry will proposed this plan for the Council of Ministers to be integrated in the national plan.

With regarding to water sector, the ministry will handle the tasks of the NWC stated in **Article.8 of Chapter Three** of water law.

Based on, the three relative laws shall be modified accordingly as follows:

1. Water Law:

- A. Replace the NWC with the MoNE.
- B. Replace PWA with the Water Resources Directorate.
- C. Modified all the articles to be adaptive with this proposal.

2. Agriculture Law:

- A. Replace the MoA with the MoNE.

B. Handle the duties and responsibilities of the MoA to the Agriculture and Irrigation Directorate.

C. Modified all the articles to be adaptive with this proposal.

3. Environment Law:

A. Replace the EQA/PEnA with the MoNE.

B. Handle the duties and responsibilities of the EQA/PEnA to the Environment Directorate.

C. Modified all the articles to be adaptive with this proposal.

4.6.3 Ministry of Health (MoH)

As mentioned in **Point. B** in **Section 4.3.1**, MoH has the responsibility to protect the public health through integrated health system according to the duties and responsibilities stated by the Public Health Law.

4.6.4 Ministry of Local Government (MoLG)

As mentioned in **Point. D** in **Section 4.3.1**, MOLG is the leading ministry supports Local Government Units (LGU) to increase its capacity and resources development towards achieving citizen's welfare and practices to achieve sustainable development for infrastructure components within a good local governance framework according to duties and responsibilities stated in Local Originations Law.

4.6.5 Ministry of Finance (MoF)

As mentioned in **Point. C** in **Section 4.3.1**, MoF is the responsible for the financial system of PA. In general, the ministry is responsible for planning the financial policy of the PA and supervising its implementation, insuring the integration between the monetary and financial policy to serve national economy treasury.

4.7 Operational, Supply & Service Provider Level

This level will be occupied by the operators and service supplies. There are three current operators and service suppliers in Gaza Strip (CMWU as CCS, 25 municipalities and UNRWA). The Bulk Utility is a new proposed national utility which shall be established according to provisions of Water Law and shall handle the supply of bulk water to the regional water entities.

4.7.1 Bulk Water Utility

This utility is a non-profit institute, works based on the commercial bases, mainly the service's costs recovery principles, the private sector participation to enhance the PPPs and the potential for future development. This utility shall be controlled by a special by-law approved by the Council of Ministers for this purpose only.

A. Area of Interests

In general the utility will supply of bulk water to the regional water entities according to the provisions of Water Law.

B. Subordination

After revising the water law, Bulk Utility shall be established by virtue of the water law, and shall be subjected directly to the Water Sources Directorate in the MoNE.

C. Board of Director

The Board of Director enjoys the required executive power for management of the utility under the general system offered by Water Sources Directorate based on the provisions of the water law mainly and other relative local laws. The utility shall be directed by a board of directors with members have the right to vote and selected based on the duties of each agency each as its local law.

1. Chairman of Water Sources Directorate in the MoNE (Chairman).
2. Chairman of Agriculture and Irrigation Directorate in the MoNE.
3. Chairman of Environment Directorate in the MoNE.
4. Senior Representative of MoH since the ministry is the responsibility to protect the public health through integrated health system.
5. Senior Representative of MoLG since the ministry is the coordinator and responsible about all the local bodies each within its region, in water supply for drinking or other purposes and establishing of the local sewage and drainage collection systems as stated in **(Article.15, Part. A)** of the local organization law.
6. Senior Representative of MoF since the ministry is the responsible for the financial system of ministries, public institutions, and the different PNA institutions through its competent departments mainly under the provisions of the **Decree No.3/2008** and **amendment of Law No.7/1998**.
7. General Managers of the four regional utilities.

D. Duties and responsibilities of Board of Directors

The following points represent the general outlines for the duties and responsibilities of the utility based on the proposed composition of the board.

1. Overall management of the utility to insure complying of its goals and objectives in a sustainable ways.
2. Laying down the general policy and identifying the means to implement those policies.

3. Electing a new chairman and vice- chairman.
4. Appointing a secretary for the board.
5. Appointing and deposition the Director General of the utility.
6. Drafting the basic law or the bylaw which governing the work of the utility with reference to the provisions of the water law.
7. Drafting the regulations and policies for controlling the work of the utility.
8. Approving the institutional, legal, financial, and administrative framework of the utility.
9. Issuing any required regulations and putting them into effect after obtaining the approval of the council of ministers.
10. Securing national funds and enhancing the investments by the private sector.
11. Formation of permanent or temporal committees for specific purposes.
12. Appointment of new employees as required taking in account any matters in concern to them.
13. Appointment of experienced and specialized experts, consultants, and technical as required.
14. Proposing the annual budget of the utility.
15. Preparation of the annual report of various activities and presenting the report to the council of ministers
16. Revising and approval of the reports issued by the Direct General.
17. The board may authorize any of its members to accomplish specific tasks.
18. Proposing the tariff system for each sector which based on the unified tariff system.
19. Any other tasks delegated to the board by the council of ministers.

E. Meetings of the Board

The board of director shall meet at the invitation of its chairman at least once every month in the normal cases, and as required in any emergency cases whenever necessary. The meeting shall be chaired by the chairman or by the vice- chairman in his absence. The secretary shall prepare the agenda for meeting, issuing the written invitations, and drafting the resolutions and implementing them.

During this meeting, the board can invite any competent agency, decision makers, or any governmental body or person to attend this meeting whenever necessary.

F. Chairman of the Utility

The Chairman shall be appointed or removed by a resolution from the Board of Directors of the utility, and the by-law will include his duties and responsibilities which will not be limited to the following:

1. General management of all various structures of the utility.

2. Organizing and management of all employees in the different departments of the utility.
3. Representing the utility in all internal and external events.
4. Insure the circulation of the resolutions issued by the Board for all different structures and departments of the utility.
5. Implementation of all regulations, policies, and resolutions issued by the Board.
6. Revising and recommended to the Board any amendments to the by-law of the utility.
7. Preparing and submitting the monthly and periodic reports about the functioning of the utility and its various departments to the Board.
8. Organizing the financial system of the utility and submitting the financial reports about the current and required budgets to the Board.
9. Approving and signing of all expenses in the different forms based on the approved financial system by the Board.
10. Any other tasks assigned to him by the Board.

G. Duties and Responsibilities of the Utility

Duties and responsibilities shall be specified in the by-law of the utility. In general, the utility shall handle the following tasks and responsibilities:

1. Supply and sell of bulk water to the regional utilities.
2. O/M of the renovation and development of existing infrastructure for bulk water supply sources and any assets received by the Water sources directorate.
3. Participate in determining the levels and the required water sources in cooperation with the Water Sources Directorate.
4. Prepare of water tariff systems and related services and submit them to the Water Resources Directorate to be approval by the ministry.
5. Invest the revenues in order to achieve its objectives and fulfill its interests of any legitimate purposes.
6. The utility man benefit, sale, emptying and subject to the reservations, rental, replacement, transfer, create a security interest or any other right or dispose of part or all of its assets as it sees in order to achieve its objectives, serve its interests after obtaining the approval of the MoNE according to the recommendation of the Water Resources Directorate.
7. Reporting regularly to the Water Sources Directorates about its achievements and needs in order to achieve its interests.
8. Any other tasks assigned by the MoNE according to the recommendations of the Water Sources Directorate.

4.7.2 Coastal Municipalities of Water Utility (CMWU)

As mentioned in **Point 4.5.1** in **Section 4.7**, CMWU was established as CCS for the existing 25 municipality for the administration of water and sewage entities of the south

governorates of Palestine. Now in order to enhance this level, CMWU shall be converted to be one of the four proposed regional utilities for the southern governorates in Palestine. This shall be done based on the provisions of Water Law. And its by-law shall be redrafted to have Water Law as main reference for its work. In addition, the role of Water Resources Directorate shall be enhanced and this directorate shall have more duties in the control and supervising of this utility.

Within the structure of the CMWU as regional utility, the 25 municipality in the southern governorates of Palestine shall be represented by the regional offices of CMWU in the strip.

In addition, UNRWA as service provider for water and waste-water services in the eight refugee camps in Gaza Strip shall serve these camps in coordination with CMWU headquarter and through its regional offices in the Strip.

5. Private Sector Participation

5.1 Introduction

O&M of the different services typically falls under the heading of (Public Services), or keep the management interests in the public interest even in cases where they are provided by private enterprises. Irrespective of the type of PSP arrangement, the governmental and public institutes seeking to reform services provision need to take fully into consideration the significance of both social and environmental objectives. This means selecting the appropriate institutional arrangements that are conducive to meeting the following goals (Maria A., M., 2003):

- Achieving minimum service levels, ensuring that services are affordable for all users, and encouraging public participation in tariff modifications (social objectives).
- Adequate drinking water quality and sufficient water-based ecosystem protection (environmental objectives).

Based on the IWRM principles, water has an economic value and shall be recognized as an economic good. And according to the recommendations of the Second World Water Conference (WWC, 2000), privatization should be considered in the management process to achieve water security which is the first key identified by the ICFW, 2001a. That's mean the private sector should be part of the institutional framework of water and waste-water sector management. And, according to the concepts of the MTF, the private sector can be found in any shape at any level as part of the overarching boundaries which identified as water system.

Private Sector Participation (PSP) in public services introduces various social and environmental objectives under different models of the service provision and the operation and maintenance (O&M) of the different facilities. This shall be under specific frameworks, regulatory conditions, special contract designs, and decision-making processes contribute to the most equitable and efficient O&M and services provision.

There are significant challenges associated with the service provision and the O&M of the different facilities. PSP is one of the proposed means that is considered through reform of water sector. The most pressing of these falls under one of the following headings:

- **Infrastructure** (leaks reduction, replacement/expansion of networks, technological innovation);
- **Financial** (sustainable & equitable tariffs, efficient revenue collection, investment);

- **Environment and health** (public health needs, conservation, environmental management);
- **Socio-political** (affordability, transparency, accountability, higher standards coverage);
- **Managerial** (improving efficiency and productivity, capacity building, efficient procurement)

Different factors driving demand for PSP within the management framework of the water sector. Kraemer (1998) mentioned the following different factors:

- **Societal:** Public and governmental agencies have been unable to satisfy basic water needs for all. The context is one of dwindling public funds, increased demand, large investment gaps, ageing infrastructure in need of rehabilitation, and calls for increased decentralization.
- **Commercial:** The Dublin Water Conference in 1992 established water as an “Economic Good”. This challenged the traditional approach to water service provision, which held that water services were the domain of public agencies alone.
- **Financial:** There is a belief that the private sector can mobilize capital faster and cheaper than the public sector. The expectation that by shifting assets from public control into private ownership and capital markets, economic efficiencies can be unleashed.
- **Ideological:** This refers to the notion that “Smaller Government is Better”.
- **Pragmatic:** Inability of governments to finance rising capital, O&M costs or municipal water systems. Need to invest in infrastructure, increasing population, and constrained public finances.

5.2 Types of the Private Sector Participation

As mentioned before, defining PSP in the context of water sector requires determining the responsibility for assets, O&M, management, risk, capital investments, as well as establishing the legal status of the operator. This provides different types and degree of PSP based on service provision, system operation, and legal status.

- **Administrative PSP** is characterized by public ownership of assets, public management, O&M, investment and legal status. Depending on the public utility, there may be separate units created within the public administration, with corresponding separate accounts.
- **Corporative PSP** is present in cases where a separate public body is formed. The water service provider has both active and passive legation, requiring it to represent itself in any conflicts arising from interference. This legal standing enables the water service provider to minimize political interference, especially when compared

to Administrative PSP. Assets are publicly owned, but investments are received directly to the water provider. These providers have the ability to finance operations independently, and often award pay on the basis of private sector pay scales. In both Administrative and Corporative PSP, operations and management duties may be contracted out to the private sector or other public agents.

- **Legal PSP** takes three forms. The first form is that of a Municipal Enterprise, the private-law body that is 100% owned by the public utility. The second form is a Public Enterprise, with 100% of assets owned by more than one municipality or utility. Both forms of enterprises are subject to company law, and asset and share exchanges occur. The third type is a Mixed Enterprise. Like Municipal and Public Enterprise, a Mixed Enterprise is a private-law body that operates under company law. However, unlike a Municipal and Public Enterprises, only 50% or more of the assets are municipally or publicly owned (by one or more partners). The remaining assets are controlled by private actors namely through investment and capital participation. Under PSP by Delegation, assets remain public while operations, management, and capital investments may be carried out by a private contractor. Contractual options vary, ranging from leases to concessions to services. The length of contracts may also vary from 3-30 years. At the end of the contract, assets are transferred back to the municipal or the public utility.
- **PSP by Delegation**, under which the assets remain public while operations, management, and capital investments may be carried out by a private contractor. Contractual options vary, ranging from leases to concessions to services. The length of contracts may also vary from 3-30 years. At the end of the contract, assets are transferred back to the public utilities.
- **Financial PSP** has often been referred to as (Full Privatization), because 100% of the assets are owned by private investors. This is the rarest form of PSP found in the form of investor-owned utilities.

In the cases where Financial PSP and PSP by delegation are used, it is important to have established regulatory frameworks that protect consumers from monopoly abuse in the form of low service quality and high prices. Where administrative, corporative or municipal enterprises are the norm, regulation must not exist in the formal sense. Local control is inherently present given the fact that the municipality or the utility own the assets related to water service provision. But anyway, specific legislation defining the role of PSP, as well as mechanisms for public scrutiny and consultation should be issued and enforced within the management framework of the sector.

The framework that governs the creation of public and private law corporations is highly significant. **Figure (5.1)** shows the framework of private sector participation in services provision which illustrates the numerous options available to municipalities and the utilities seeking to reform the public provision of services by introducing some form of PSP. It is important to note that in these cases municipalities or territorial corporations own 100% of the assets.

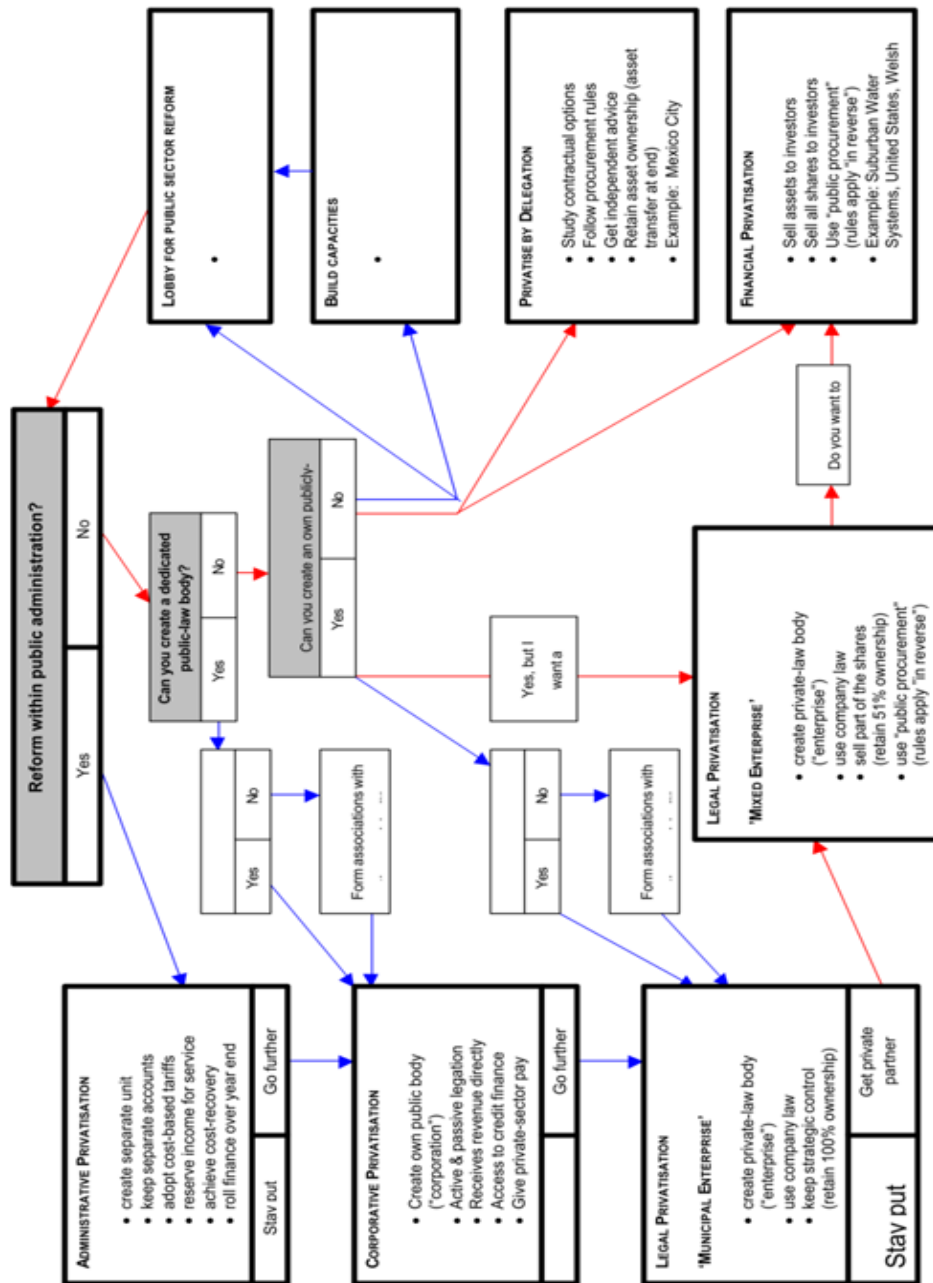


Figure 5.1: A Framework of Private Sector Participation in Services Provision (Maria A., M., 2003).

5.3 Types of the Public-Private Partnership

There are two forms of Private Sector Participation (PSP) in water supply and sanitation. In a *full privatization*, assets are permanently sold to a private investor and it is in charge of all the risks. In a *public-private partnership (PPP)*, ownership of assets remains public and only certain functions are delegated to a private company for a specific period. PPPs are the most common form of private sector participation in water and sanitation service. Perard E., et. al. (2007) mentioned that the 7 major types of private involvement are:

- **A Service contract**, under which the participation of the private sector is very limited. It provides technical and administrative tasks, such as repairs, meter reading or payment collection. The private sector does not bear any commercial risk regarding water supply. The contract period rarely 1-2 years. This contract is adapted to all situations even when the regulatory framework is particularly weak.
- **A Management contract**, under which the private operator is only responsible for operation and management of the system. However, the user remains legally client of the public entity. The private contractor is paid on a “fee per unit” basis defined in the contract: per volume of water sold, per number of connections, etc... Investment is financed and carried out by the public sector. The duration is typically 4–7 years.
- **A Lease contract (Afterimage)**, under which assets are leased to the private sector. Users become direct clients of the private contractor, which bears a much more important part of commercial risks than under a management contract. However, it is not in charge of capital investment. In exchange for greater risks, the leaseholder receives a part or the totality of water revenues. Investment is fully or mostly financed and carried out by the public sector. The duration is typically 10–15 years.
- **Build-Operate-Transfer (BOT) contract**, the private sector is in charge of designing, building and financing a new investment project. It has also to operate and maintain it for the concession period and then hand it over to the public sector. This mechanism has the advantage of not increasing the sovereign debt. This type of contract is usually used for construction of water production and desalination plants and sale of bulk water to the public provider rather than for water distribution. Currency risks and the significant length of legal negotiation increase the cost of projects financed under a BOT contract.
- **A Concession**, it is similar to the lease contract, under which the private operator is responsible for running the entire system and is in charge of financing the expansion and the rehabilitation of the network and the users are direct clients of the private contractor. Investment is mostly or fully financed and carried out by the private operator. The duration is typically 20–30 years. At the end of this period, the private operator hands over the installation to the public sector.
- **A Joint Venture (Shared Ownership) contract**, under which the public utility and a private operator co-owns the water operator. Usually, the private sector holds the

largest part of the newly created company. The two shareholders share responsibilities and benefits. Even if this agreement seems adapted to the politically sensitive case of water supply, such kind of contract can be very unstable.

- **Full Divestiture**, under this arrangement, assets are entirely sold to the private sector. The private operator is in charge of financing, operation, management and bears all the risks. However, these private monopolies remain overseen by the public sector and independent regulatory agencies.

Table (5.1) summarizes the forms of private involvement and responsibilities in water and sanitation services.

Table 5.1: Forms of Private Involvement in Water Supply Perard E., (2007).

Option	Setting performance standards	Asset ownership	Capital investment	Design and build	Operation and maintenance	Commercial risk	Oversight of performance and fees	Duration (years)
Service contract	Public	Public	Public	Public	Shared Public/Private	Public	Public	1–2
Management contract	Public	Public	Public	Public	Private	Public	Public	3–5
Lease contract "Affermage"	Public	Public	Public	Public	Private	Shared Public/Private	Public	10–12
Build-Operate-Transfer	Public	Private Bulk services	Private	Private	Private	Private	Public	20–30
Concession contract	Public	Public	Private	Private	Private	Private	Public	25–30
Joint Venture	Public	Shared Public/Private	Shared Public/Private	Shared Public/Private	Shared Public/Private	Shared Public/Private	Public	Indefinite
Divestiture	Public	Private	Private	Private	Private	Private	Public	Indefinite

5.4 International Experience of the Public Private Participation

Perard (2007) mentioned in the Project titled: “Understanding Privatization Policy (UPP): Political Economy and Welfare Effects”, mentioned that After a few years of experience with service contracts, Algeria signed for the first time a BOT contract for a desalination plant in 2001, and outsourced recently in 2005 the water supply of Algiers by awarding a management contract to Suez. In 2005 it started to reform the water sector and implemented a new water law. These efforts emphasize private sector participation in water and encourage public water and sewerage services to delegate their activities under a

concession contract. Service contracts, Management contracts, Lease contracts and Concession contracts were legalized as early as 1995 firstly, so far concession contracts have not been used. This might be due to the lack of political reforms before 2001. Article 65 of the law of 2005 intends to put in place an independent regulatory agency in charge of monitoring private water provision.

In 2002, municipalities in Morocco have the full responsibilities of water supply and sanitation services and they can delegate the management to private sectors. Morocco is the first country in the region used the concession contracts with duration varies between twenty to twenty five years. There are four private operators under a concession contract. The first and the second concession contracts were awarded by direct negotiations and with time the process evolved to become more transparent, involving public tendering.

Besides the geopolitical problems, Lebanon and Palestine are also starting to outsource water supply and sanitation. A management contract was awarded in 1996 for water supply in Gaza and two others were awarded in Lebanon for water supply in Tripoli and Baalbeck.

In Egypt the PSP is very restricted. The Operational and Maintenance responsibilities of water supply system were delegated to local agencies including public/private companies or utilities in 9 Governorates (with private companies for wastewater treatment in Damietta, Kafr El Sheikh, Beheira).

In Jordan, private water provision is more important in percentage, but the state delegates less responsibilities to the private sector by awarding management contracts for 5 years. In Tunisia, private sector participation concerns only wastewater with limited service contracts

5.5 Recommended types of the Private Sector Participation

Private sector participation will lead to improve the efficiency and service quality of utilities and the municipal and increase investment and contribute to expand access which considered the basic requirements to improve the quality of the service, and O&M of facilities in water and sanitation sector in Gaza Strip nowadays. In the Strip, the public utilities are poorly managed, which cause low bill collection, high water losses and lasting only for a few hours a day or a few days per week. In addition to the small-scale private sector often informal local operators who exist in the strip and provide a large population with drinking water mainly. This implies that the private sector should be part of the governmental framework of water management sector. Accordingly, **Table (5.2)** shows the recommended PSP types & PPP contracts.

Table 5.2: Recommended Types of PSP & PPP Contracts in the Different Levels.

Level	Area of Interest	PPP contract Type	PSP Type	Private Responsibilities	Local Responsibilities
The Operational and Supply Level	Water Treatment.	Build-Operate-Transfer (BOT)	Delegation	<ul style="list-style-type: none"> • Designing, building and financing a new investment project. • Operate and maintain of asset. • Increasing and rehabilitation of the main network. • Sale of bulk water to the public providers (Mainly the municipalities or CMWU). • Hand over the asset to the public without increasing in the sovereign debt. • The commercial risk. • Fees collection from the public utilities. 	<ul style="list-style-type: none"> • Setting performance standards. • Oversight of performance and financial issues. • Assets ownership.
	Waste-Water.	Concession	Delegation	<ul style="list-style-type: none"> • Designing, building and financing a new investment project. • Running the entire system. • Financing the expansion and the rehabilitation either the main or the sub-main network. • Operate and maintain of asset for the concession period. • The commercial risk. • Fees collection from the users who are direct clients of the private contractor. 	<ul style="list-style-type: none"> • Setting performance standards. • Oversight of performance and financial issues. • Assets ownership.

	Operation of domestic facilities & Supply to the municipalities	Concession + Management	Delegation + Corporate	<ul style="list-style-type: none"> • Designing, building and financing a new investment project. • Running the entire system. • Financing the expansion and the rehabilitation of networks. • Operate and maintain of asset for the concession period. • The commercial risk. • Fees collection from municipalities based on (fee per unit) basis as management contract. 	<ul style="list-style-type: none"> • Setting performance standards. • Oversight of performance and financial issues. • Assets ownership.
The Service Level	Service providing to consumers	Management + Service	Corporate + Administrative	<ul style="list-style-type: none"> • Operation and management of the system. 	<ul style="list-style-type: none"> • Setting performance standards. • Oversight of performance and financial issues. • Assets ownership. • The commercial risk. • Designing, building and financing a new investment project.

5.6 Major Components of the Private Sector Participation

The process for privatizing any publicly-owned service can last many years. The World Bank identifies seven major components of a privatization. Within each component there are various overlapping phases, all of which have to be carefully coordinated. The problem is that governments may be inexperienced in running such a complicated process. So, governments will not follow the exact process as recommended. However, it is likely that the process will be very similar.

A. Policy Formulation, under which the following studies and assessments should be considered during the preparation phase of the privatization process.

- ✓ Industry analysis – review sector studies.
- ✓ Financial analysis – review key financial parameters.
- ✓ Legal and regulatory – review current status.
- ✓ Institutional – review current arrangements.
- ✓ Draft central policy paper with principal objectives.
- ✓ Define bid process and criteria.
- ✓ Address issues of transaction structure.

B. Technical, which including the following points at the preparation phase of the privatization process.

- ✓ Carry out preliminary technical overview of the system.
- ✓ Define the service area.
- ✓ Estimate replacement cost and capital expenditure.
- ✓ Define technical performance standards.
- ✓ Estimate human resource requirements.
- ✓ Draft relevant sections of information memorandum.

C. Legal and regulatory, which include the following steps some will be at the preparation phase and the other at the implementation phase of the privatization process.

- ✓ Review legal and regulatory issues.
- ✓ Draft legislation and regulations.
- ✓ Draft paper on privatization and corporatization issues.
- ✓ Review legal aspects of labor issues.
- ✓ Draft transaction documents.
- ✓ Draft relevant sections of information memorandum.
- ✓ Enact necessary enabling laws and regulations.

- ✓ Establish regulatory authority and approve operational rules for regulators.
- ✓ Select and appoint regulators.
- ✓ Establish customer representative body.
- ✓ Provide initial funding for regulators.
- ✓ Establish regional coordination.

D. Economic and financial, most of the following economic and financial factors should be considered at the preparation phase of the privatization process.

- ✓ Develop financial model.
- ✓ Review demand forecasts.
- ✓ Estimate costs (capital, operating, maintenance).
- ✓ Draft tariff.
- ✓ Determine government support.
- ✓ Draft relevant sections of information memorandum.
- ✓ Review existing financial statements.
- ✓ Review personnel costs and restructuring (if any).
- ✓ Prepare preliminary financial statements.
- ✓ Define financial covenants.

E. Public relations, the government may try to ensure public backing for the privatization through:

- ✓ Prepare public attitude surveys (if any).
- ✓ Run public awareness campaign.
- ✓ Prepare public relations campaign for implementation.
- ✓ Pre-marketing.

F. Human resources, it is vital that the government builds good relations with workers and unions by organize interactions with workers and unions.

G. Transaction, most of the following process for contracting the private sector should be drawn up during the implementation phase.

- ✓ Finalize information memorandum and register interested parties.
- ✓ Enter into confidentiality agreements and issue information memorandum.
- ✓ Issue project documents for bidders and negotiate terms with bidders.
- ✓ Receive final bids
- ✓ Issue letter of award
- ✓ Reach financial closing.

5.7 Legal side of the Private Sector Participation

After revising the current national laws the following articles representing the legal reference which justifying the participation of the private sector in the management of the water & sewage sectors.

A. Water Law No.3/2002

Article (3): The private institution that provides water services must take the necessary steps to insure this right and to make the necessary plans for developing these services.

Article (8): The private sector is part of the NWC composition represented by Water Union and Societies and Regional Utilities. As **Point.4 (Fourth)** of this article, the representatives of the private sector shall be selected on the basis of experience, specialization, and competency in this field.

Article (27): PWA may contract with regional utilities to operate alternative water systems. This mean that the regional utilities could has the nature and shape of the private sector and they will be contracted under any type and conditions of the public-private partnership (PPP) contracts.

Article (28): The Authority shall have the right to supervise an control regional utilities and water users associations, in cooperation and coordination with the relevant parties, and to take all the procedures necessary regarding them for violating the provisions of this Law or the regulations or directives issued thereunder.

B. Amended Basic Law 2005

Article (21): The economic system in Palestine shall be based on the principles of a free market economy. And, the freedom of economic activity is guaranteed. This economic system includes the private sector and its activities are guaranteed and regulated by especial laws.

Law No. 6/1995 about **Encouragement of Investment**, which followed by **Law No.1/1998** about **Encouragement of Investment in Palestine** Which was amended by the **Presidential Decree in 2011**. All of these laws stated that the private sector can participate in any field in order to improve the national development in PALESTINE.

C. Local Organizations Law No. 1/1997

Article (15). As stated in Pint. A, the local organization can delegate within its control region all or part of its tasks to contractors and given privileges by all or part of these tasks for companies for a maximum three years. In **Point. 26** of the same article, the private sector can participate in the management of the possessions of the local organization either by rent or guaranty for not more than three years. The limitation of the delegation period shall not determine in this article, but it shall be adapted according to the type of contract signed with the private sector.

5.8 Indicators to Measure the Impacts of the Private Sector Participation

The privatization of the different water services either O&M or the supply has various and mixed impacts. The results depend on the choice of the indicator used to measure impact. Private participation can also improve competency in the water sector by introducing of the competition brings efficiency gains; the most important of which comes from changing the incentive structure, inducing innovation and influencing investment decisions. The following are the most common indicators which used to measure the impacts, improvements and changes in the socioeconomic, environmental and health conditions and basic services availability and quality. To achieve the following improvements, the private sector has invested in the expansion of coverage and in regular maintenance and has enhanced billing and revenue collection activities.

A. Impact on Access.

- ✓ Increasing of percentage of the connected households to water and sanitation services;
- ✓ Improvement in water service quality;
- ✓ Improvement in water production efficiency;
- ✓ Diminished water losses;
- ✓ Strengthening of management of the water sector at the service level;
- ✓ Enhancement of customer care.

B. Impact on health. As direct effect to the improvement of services and its quality, the hygienic conditions will be healthier and the number of cases of water borne diseases will be reduced over time.

C. Impact on tariff and Water Prices. Privatization may also affect Tariff and water prices where more than one scenario exists.

- ✓ First, if prices were initially fixed at below-cost levels, then prices after privatization would need to increase as prices should cover production cost.

- ✓ Second, efficiency savings achieved under privatization will generally lead to a drop in prices with some gains passed on to consumers. This is due to the decreased efficiency losses, proper maintenance and consequent saving of water which have been otherwise lost and need to be replaced adding up to the cost.
- ✓ Third, the total cost of private financing may bring about an increase in prices. Hence, prices after privatization will reflect full costs and the consumer will be charged instead of the taxpayer.

D. Profitability. It means to estimate the profit compared to the total cost. But, this point should be considered by the private sector who should be responsible about the capital investment and the commercial risk in many types of the private involvement and responsibilities in water and sanitation services.

6. Findings & Recommendations

6.1 Findings

6.1.1 Findings of the Legal Side

The current legal references of water management represented, by the national four laws: Water Law No.3/2002, the Environmental Law No.7/1999, the Agricultural Law No.2/2003 and the Public Health Law No.20/2004. But, the references of the current Water Law are three military laws with excuses for water sources management. The Agricultural Law specified in one category of water use which is the agricultural water for irrigation purposes only.

Water Law, Agricultural Law & Environmental Law shared the same concept about violations and sanctions regarding any actions against water sources. This concept is not clear which weakens the enforcement of these penalties on ground.

The integration among these laws represented by practical coordination mechanisms between these agencies as referred in laws. But the coordination mechanisms were not clarified well in articles of laws. In spite of this, the coordination mechanisms shall be based on duties of each agency which identified well in laws. **Table (6.1)** summarizing the direct tasks for each agency in addition to other tasks shall be integrated in as competent agency in the decision making process of this task.

Table 6.1: Summarizing the direct and indirect responsibilities for the main competent agencies as stated by the law.

Indicator Agency	Water Sources Management	Drinking Water Standards	Setting Design Standards & QA/QC	Draft Water Laws & Regulations	Agricultural Water Management	Public Health Protection	Collection Standards	Reuse Standards	EIA Standards	Disposing Standards	Treatment Standards	Sampling Analysis	Health Supervision (Water & Waste- Water Systems + Treatment Plants)
PWA	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋		
EQA		⌋⌋			⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋		
MoA			⌋⌋		⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	⌋⌋	
MoH	⌋⌋					⌋⌋	⌋⌋	⌋⌋		⌋⌋	⌋⌋	⌋⌋	⌋⌋

Table Key:

⌋⌋: Direct Responsibility as Stated in Law.

⌋⌋: Indirect Responsibility as Competent Agency Shall Participate in This Task.

In addition to clearance of duties, all laws insured that the provisions of each law shall be applied without any contradictories with other articles in the same law or other relevant laws. And, for more comprehensive coordination and cooperation, sharing of the collected information by each agency shall be considered and integrated in one combined report highlighting the gaps points to be filled by each agency based on their roles.

6.1.2 Findings of the Institutional Reform

The multi-level regime was used since the beginning of the first attempts of water sector institutional reform process in Palestine. The current institutional framework was restructured within three levels (Political, Regulatory, and Operational). The reform process in this study based on, the principles of the IWRM and the concepts of the MTF. One of the principles of the IWRM is the participatory of the users in the management process. This adds a new level for the institutional framework named as service level including the service providers who have a direct contact with the end users. And, the concepts of the MTF indicated all components shall be integrated in water system which represented the overarching boundaries of the management process.

At the political level, three current institutions were found the main players. The PLC is the legislative authority enacts laws regulating the public agencies and controls the government. These laws shall be executed through the Council of Minister which is the executive authority and oversees the work of public institutions. The NWC is the direct link between the council of Ministers and the regulator of water sector and recommend for the council any regulations suitable for enforcement water law.

The legal level was occupied by the ministries and authorities. These agencies were categorized into two main types. The first type contains the agencies have the direct responsibility in the management process, and the second one has the agencies with an indirect responsibilities with a specific role in the management process. Based on their roles it was found that, MoA has a direct responsibility about managing of the agricultural water sources, MoH is the main agency handled the duties of public health protection, MoF charged in the financial planning regulating of the financial sources and revenues of the NPA which including the financial situation of water & waste-water sector, MoLG is the link between the governmental units represented by the municipalities & common councils and the government and coordinate water supply and waste-water services as referred in the Palestinian Local Organizations Law No.1/1997 and MoPAD is the planner of the national plans for water and waste-water sectors through the IPD which integrated directly in approval of water policy as part of the national policy. The MONE has an indirect role in the management process through supporting the private sector and regulating its investments and involvement in the management process. The MoJ shall enhance applying of laws on ground as judicial authority and support the other agencies to strengthening its role in managing and regulating sectors. The authorities are the second type in this level. PWA is the regulator for water and waste-water sector and EQA is the regulator for the environmental issues and responsible for setting the environmental regulations and policies. And for more comprehensive view of the management process, PEA was proposed to be integrated in this process for only managing the required energy sources for operation of water and waste-water assets, and PLA was included only for allocate of the required lands for establishing water and waste-water assets.

At the operation level, a new utility was proposed only for managing the non-conventional water sources for better identification of the available sources and to consider these sources to fill gaps either partially or fully of the national need. This utility will be responsible for construction, O&M and development of the required assets, in addition to supply service for the service providers only. Its area of interest represented by three main sub-sectors: desalination, reuse and storm-water. This utility established upon the virtue of water law and shall be subjected directly to PWA. The utility will be managed by the board of director and this board will be supported by the advisory committee to serve and enhance work of the board.

At the service level, there are three current service providers. The oldest service provider is the municipalities. There are 25 municipalities divided over Gaza Strip regulated by MoLG to supply water and waste-water services to the local citizens each

within its regional limits. In 2000, these municipalities signed an agreement to establish a CCS for the 25 municipalities. This CCS named as CMWU and was established under the provision of the Local Organization Laws No.1/1997. Based on the practical findings of the ground and according to the current political tolerance, only 15 municipalities authorizing CMWU to act as service provider in there regional limits. In spite of this, services of CMWU covers only less than 40% of the total population in Gaza Strip. But after comparing its basic law with water law, CMWU is not considered as regional utility and shall act as CCS until its basic law redrafted to consider water law as main reference for its work and PWA shall be integrated clearly as regulator for the sector. UNRW also considered as service provider for service in eight refugee camps in Gaza Strip. Based on its commitments, UNRWA shall act more and more to improve the situation in these camps in an environmental sound matter.

The participation of the private sector was considered in this study based on the principles of the IWRM and concepts of the MTF. The PSP introduce various social and environmental objectives. Based on the available PPP types, the private sector was proposed to be part of the lowest two levels. At the operational and supply level, the delegation PSP type was chosen and the BOT contract was proposed for water treatment, and the concession contract for waste-water treatment. At the same level, the delegation and corporate PSP types and the concession & management contracts were selected for the operation of domestic facilities & supply to municipalities. But at the service level, the management and service contracts were proposed under the corporate & administrative contracts type for service providing to consumers. The legal side of PSP in sector management was guaranteed by the national laws mainly water law.

6.2 Recommendations

1. It is uncourageous to bind the reform process of water and waste-water sector with the final step of state building. In addition, any attempts to reform the water and waste-water institutional or organizational framework should not take into account the impacts of the permanent status negotiations but, it shall consider the postulation of our water rights.
2. The coordination mechanisms between the main competent agencies in the management process shall be detailed clearly in a special law for this issue mainly and shall be approved by the political level. This law could be drafted by a special committee a nominated by the Council of Ministers. This law shall include articles for the violations and sanctions of provisions of this law.
3. Water law, Environmental law, Agricultural law shall include detailed articles for penalties based on the type of violations, damages results from these violations, cost of recovery and cost to find alternative sources to cover needs from these sources. In addition, articles regarding licensing
4. The water and waste-water sector needs to be recognized as a strategic element in the national plans of PNA and in the overall financial and development programs of Palestine. Therefore, more actions shall be considered by the political level mainly the NWC through its recommendations to Council of Ministers & PLC.
5. As mentioned in the first option, the NWC shall be resolved as mentioned in the second proposal. This will overlap the repetition of the first non-practical experience and PWA will have a direct link with the Council of Ministers. This will ascend PWA to act as ministry with more powers in the decision making process.
6. It is preferable to have less number of levels in the institutional framework of water sector management with viewer number of competent agencies as mentioned in the second option. This will decrease the discrepancies between these agencies and will enhance the development of sector with more clear duties for these agencies.
7. In the first option, MoNE, MoJ, PEA and PLA shall be integrated in the management process of water and waste-water sector each according to its specific task in order to fill the existing gaps and providing the specific needs according to the current situation on the ground.

8. To improve CMWU functions from CCS to be regional utility, its basic law shall be established under the provisions of water law as main reference for its work with strong roles of the PWA as sector regulator.
9. UNRWA shall increasing its capabilities in order to meet its commitments as service provider in the eight refugee camps in Gaza Strip for better living conditions.
10. Private sector participation shall be considered in the institutional framework of water management and its legal references shall be established and detailed in especial policies and regulation for this issue mainly.
11. All the policies, regulations and basic-laws of the competent agencies shall be studied and compared together in a special study based on the provisions of laws to redraft these tools and solve any existing discrepancies to improve the functions of these agencies
12. Enhancing the existence of specific courses about laws, regulations & policies as main topics in the study plan of master programs mainly Water Resources Engineering Program with specialized academic human resources.

References

- ❖ (1858) The Ottoman Law on Land.
- ❖ (1870) The Ottoman Civil Code.
- ❖ (2003) Palestinian Basic Law.
- ❖ (2005) Amendment of the Palestinian Basic Law.
- ❖ (2005) Common Council of Services Coastal Municipalities Water Utility, Basic Law.
- ❖ Al Madina consultant joint venture with DHV B.V The Netherlands. (January 2010) Support and Establish Management Interface between PWA & Service Providers.
- ❖ Ana-Mari M. Hamada, Interwies E. & Kraemer R.. (2003) Ecologic, Institut für Internationale und Europäische Umweltpolitik, Water Governance & Private Sector Participation in OECD Countries (1st Final Report).
- ❖ Tiwari A.. (2009) Creating Enabling Conditions for Sustained Reforms in Urban Water Sector: A Case for Legal Reforms in National Capital Region of Delhi, Centre for Regulatory and Policy Research, TERI University, India.
- ❖ Pahl-Wostl C., Holtz G., Kastens B., Knieper C.. (2010) Analyzing Complex Water Governance Regimes: the Management and Transition Framework. Science Direct: Environmental Science & Policy, No.13, pp. 571-581.
- ❖ Bandaragoda D. (2006) Status of Institutional Reforms for Integrated Water Resources Management in Asia: Indications from Policy Reviews in Five Countries-Working Paper. 108, International Water Management Institute.
- ❖ Al-Madfaei M.. (2009) PhD Thesis: The Impact Of Privatization On The Sustainability Of Water Resources In The United Arab Emirates.
- ❖ Hussein H.. (2004) Water for life in the Middle East. (Hillel Shuval - Hasan Dwiek) (Article Review). The 2nd Israeli Palestinian international conference: water for life in the Middle East, volume I, Turkey.
- ❖ Xuan-Su P.. (2010) Analysis Of Legal Framework For Water Use And Management In Vietnam. Regional Workshop: “Sustainable Water Resources Use in Asia”, Bangkok.

- ❖ Pérard E., Mattei F., (FEEM). (2007) Private Sector Participation and Regulatory Reform in Water Supply: The Middle East and North African (MEDA) Experience, Deliverable: D.3.1.
- ❖ European Commission. (2002) Handbook on the Implementation of EC Environmental Legislation.
- ❖ Gaza Camp Profiles Available in: <http://www.unrwa.org/etemplate.php?id=68>, (Accessed: 3rd August 2012).
- ❖ HYDROSULT INC. in association with CEP. (2011) Institutional Water Sector Review Palestine, Draft Mid-Term Report.
- ❖ Junier, S., Mostert, E. (2011) The implementation of the Water Framework Directive in The Netherlands: Does it promote integrated management?. Science Direct: Phys. Chem. Earth.
- ❖ Ministry of Agriculture (MoA), GDPP. (2009) The Palestinian Agricultural Sector, Strategic objectives and priority interventions, (General Guidelines).
- ❖ Palestinian Agricultural Law No.2/2003.
- ❖ Palestinian Environmental Law No.7/1999.
- ❖ Palestinian Local Organizations Law No.1/1997.
- ❖ WHO. (Published on April 23, 2005 AD) Palestinian Public Health Law No.20/2004, (Translated in to English by WHO Office For West Bank and Gaza).
- ❖ Palestinian Refugees in Gaza UNRWA Camps (Updated January 2010) available in: <http://www.jewishvirtuallibrary.org/jsource/UN/unrwa6.html>, (Accessed: 3rd August 2012).
- ❖ Palestinian Water Authority. (2000) Water Law No.3/2002
- ❖ Palestinian Water Authority. (2006) Modifications of the water law No.3.
- ❖ Palestinian Water Authority. (2010) Terms Of Reference, The Legal Review And Drafting Of New Water Law - Draft -Version 1
- ❖ Palestinian Water Authority. (2012) Palestinian Water Sector: Status Summary Report. In preparation for the Meeting of the Ad Hoc Liaison Committee (AHLIC).

- ❖ El Sheikh R.. (2004) Regulatory challenges of Palestinian strategies on distribution of desalinated water. Science Direct: Desalination, No. 165, pp. 83-88.
- ❖ Saleth R., & Dinar A.. (2000) Institutional Changes In Global Water Sector: Trends, Patterns, and Implications. Science Direct: Water Policy, No. 2, pp. 175-199
- ❖ Ramaswamy R.. (2010) Governance of Water: The Legal Questions, Indian Council for South Asian Cooperation.
- ❖ Safeguarding of Public Water Supplies Ordinance No.17/1937.
- ❖ Klawitter S., and Barghouti I.. (2006) Institutional design and process of the Palestinian water sector, Principal stakeholder, their roles, interests and conflicts. Symposium on Sustainable Water Supply and Sanitation: Strengthening Capacity for Local Governance, Delft, Netherlands.
- ❖ Zabel T. and Rees Y., WRc plc, Medmenham, Marlow. (1999) Institutional Framework for Water Management in the United Kingdom.
- ❖ United Nations General Assembly. (8 December 1949) Appendix 2, Resolution 302 (IV). Assistance to Palestine Refugees.
- ❖ UNRWA. (2012) UNRWA Emergency Appeal, Palestine.
- ❖ Water Control Law No. 31/1953.
- ❖ Water Resources Testing Law No. 2/1938.
- ❖ Written and edited by Green J., Public Policy Officer, Tearfund and WaterAid. (2003) Advocacy guide to private sector involvement in water services.
- ❖ جابر إبراهيم. (2006) التعرف المائية في بلديات قطاع غزة – دراسة نقدية. سلطة المياه الفلسطينية. مجلة الجامعة الإسلامية (سلسلة الدراسات الإنسانية), المجلد الرابع عشر, العدد الثاني, ص. 317-342.
- ❖ PWA. (2011) Executive Summary for the Strategic Water Sector Plan in Palestine 2011 – 2013.
- ❖ Isaac J. and Sabbah W.. (2005) The Intensifying Water Crisis in Palestine - Applied Research Institute – Jerusalem (ARIJ).
- ❖ The Ibrahim Abu-Lughod Institute of International Studies. (2013) Water in Palestine - The Birzeit Strategic Studies Forum - Birzeit University.

Appendices

Appendix-A: **Specialized Laws**

Water Law No.3/2002

Chairman of the Executive Committee of the Palestine Liberation Organization,
Chairman of the Palestinian National Authority,
After reviewing the Safeguarding of Public Water Supplies Ordinance No.17/1937 effective in Palestine,
And Water Resources Testing Law No. 2/1938 effective in Palestine,
And Water Control Law No. 31/1953 effective in West Bank Governorates,
And Law No. 2/1996 regarding the establishment of the Palestinian Water Authority,
And Law No. 1/1997 regarding the Palestinian Local Authorities,
And Resolution No. 66/1997 regarding the Internal Regulations of the Palestinian Water Authority,
And on the proposed law submitted by the Cabinet of Ministers,
And after the approval of the Legislative Council in its session held on 18/2/2002
We issued the following law:
Issued in Ramallah on 17 / 7 / 2002 AD, 8 / Jamadi Awwal/ 1423 A.H.
Yaser Arafat
Chairman of the Executive Committee of the Palestine Liberation Organization,
Chairman of the Palestinian National Authority.

Environmental Law No.7/1999

The Chairman of PLO Executive Committee,
President of the Palestinian Authority,
After approval of the Palestinian Legislative Council in its session on 6 / 7 /1999,
The following law was enacted:
Issued on: 28/ 12/ 1999
Yasser Arafat
Chairman of the PLO Executive Committee
President of the Palestinian National Authority.

قانون الزراعة رقم 2 / 2003

رئيس اللجنة التنفيذية لمنظمة التحرير الفلسطينية رئيس السلطة الوطنية الفلسطينية بعد الإطلاع على: قانون وقاية النبات رقم 10 لسنة 1924، قانون الغابات رقم 5 لسنة 1926، قانون وقاية الصيد رقم 1 لسنة 1924، قانون النحل رقم 26 لسنة 1926، قانون مصايد الأسماك رقم 6 لسنة 1937، قانون الأسمدة الزراعية رقم 27 لسنة 1937، قانون ضريبة الحيوانات رقم 38 لسنة 1944، قانون أمراض الحيوانات رقم 43 لسنة 1945، قانون ترخيص الرعاة رقم 28 لسنة 1946، المعمول بها في محافظات غزة، وعلى قانون أمراض الحيوانات رقم 39 لسنة 1954، قانون تنظيم العلاجات الزراعية رقم 8 لسنة 1959، قانون تسويق المنتجات الزراعية والحيوانية رقم 88 لسنة 1966، قانون الزراعة العام رقم 92 لسنة 1966، نظام استيراد وتصدير المواد الحيوانية ونتاج الحيوان رقم 3 لسنة 1955، نظام وقاية النبات رقم 106 لسنة 1963، نظام مراقبة الأدوية البيطرية وصناعتها رقم 2 لسنة 1967، المعمول بها في محافظات الضفة، وعلى قانون حماية الثروة الحيوانية رقم 8 لسنة 1998، وقانون المصادر الطبيعية رقم 1 لسنة 1999، وبعد إقرار المجلس التشريعي بجلسته المنعقدة بتاريخ 2003/4/15م، أصدرنا القانون الآتي:

صدر بمدينة رام الله بتاريخ: 2003/8/5 ميلادية الموافق: 7/ جماد آخر/ 1424 هجرية،
ياسر عرفات،
رئيس اللجنة التنفيذية لمنظمة التحرير الفلسطينية رئيس السلطة الوطنية الفلسطينية.

Public Health Law No.20/2004

Note: Translated in to English by WHO Office For West Bank and Gaza.

Palestinian Legislative Council

The president of the Palestinian Authority after taking knowledge of the modified essential law, the public health law number 40 for the year 1940, applied in Gaza districts, the public health law number 43 for the year 1966 applied in West Bank districts and the public health draft law presented by the minister's council, and according to the decision taken by the legislative council in its session held on the 22nd of December 2004 AD, approve the following law:

Issued in Gaza City on the 27th of December 2004, 15th of Zou El Ki'da 1425 Hegira, Rawhi Fatouh,

President of the Palestinian National Authority.

قانون رقم 1 / 1997
بشأن الهيئات المحلية الفلسطينية

رئيس اللجنة التنفيذية لمنظمة التحرير الفلسطينية،
رئيس السلطة الوطنية الفلسطينية،
بعد الإطلاع على قانون البلديات رقم 29 لسنة 1955 الساري المفعول في محافظات الضفة الغربية،
وعلى قانون البلديات رقم 1 لسنة 1934 الساري المفعول في محافظات قطاع غزة،
وعلى قانون إدارة القرى رقم 5 لسنة 1954 المعمول به في محافظات الضفة الغربية،
وعلى قانون إدارة القرى رقم 23 لسنة 1944 المعمول به في محافظات قطاع غزة،
وعلى مشروع القانون المقدم من مجلس الوزراء،
وبعد اعتماد المجلس التشريعي لمشروع القانون،
أصدرنا القانون الآتي:
صدر بمدينة غزة بتاريخ 12 / 10 / 1997 ميلادية،
الموافق: 10 / جماد الآخر / 1418 هجرية،
ياسر عرفات،
رئيس اللجنة التنفيذية لمنظمة التحرير الفلسطينية،
رئيس السلطة الوطنية الفلسطينية.

Appendix-B:

B.1: Questioner Form.

B.2: Analysis Results & Discussion.

Appendix - B.1: Questioner Form.

Questioner Form and the Proposed Questions.

<u>Introduction:</u>			
<p>This project is aimed to restructuring the institutional framework for water management in PALESTINE (Case Study: Gaza Strip) by reviewing the legal side of water management through revising the current laws to identify the discrepancies between articles of these laws & roles of competent agencies then proposing a new structure according to the principles of integrated water resources management (IWRM) approach and the concepts of the management & transient framework (MTF). And in particular, proposing a new regional utility for managing of the non-conventional water sources (Desalination, Reuse & Storm Water Harvesting) for the different purposes. The following questions representing the main topics of this thesis. The purpose of this questioner is for study only.</p>			
Name:			
Agency:			
Position:			
<u>Part. I: Legal Side</u>			
Q. A-1: Are there any discrepancies in stating of articles between these law:			
1 Water Law V.S Environmental Law	<input type="radio"/> I don't Know	<input type="radio"/> No	<input type="radio"/> Yes
	If Yes, state numbers of articles: _____		
2 Water Law V.S Agricultural Law	<input type="radio"/> I don't Know	<input type="radio"/> No	<input type="radio"/> Yes
	If Yes, state numbers of articles: _____		
3 Water Law V.S Public Health Law	<input type="radio"/> I don't Know	<input type="radio"/> No	<input type="radio"/> Yes
	If Yes, state numbers of articles: _____		
Q. A-2: Are there any interferences in rules based on the laws between the main competent agencies:			
1 PWA V.S EQA	<input type="radio"/> I don't Know	<input type="radio"/> No	<input type="radio"/> Yes
	If Yes, state numbers of articles: _____		
2 PWA V.S MoA	<input type="radio"/> I don't Know	<input type="radio"/> No	<input type="radio"/> Yes
	If Yes, state numbers of articles: _____		
3 PWA V.S MoH	<input type="radio"/> I don't Know	<input type="radio"/> No	<input type="radio"/> Yes
	If Yes, state numbers of articles: _____		

Q. A-3: Are there any practical interferences in rules between the main competent agencies:	
<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> I don't Know	
If Yes, state in points:	
<hr/> <hr/>	
Part. B: Institutional Framework	
Q. B-1: Do you Agree to Divide the framework to Four Level as proposed in Figure No.1 (Fig.: 4-1)	
<input type="radio"/> Yes <input type="radio"/> No	
If No, state in points:	
<hr/> <hr/>	
Q. B-2: Does the Current Composition of the NWC stated in the Water Law is the main problem for its malfunctioning.	
<input type="radio"/> Yes <input type="radio"/> No	
If No, state in points:	
<hr/> <hr/>	
Q. B-3: Do You Agree About the New structure of the NWC Proposed in Figure No.2 (Fig.: 4-3)	
<input type="radio"/> Yes <input type="radio"/> No	
If No, state in points:	
<hr/> <hr/>	
Q. B-3: Do you Agree to propose A new Utility for Non-Conventional Water Sources.	
<input type="radio"/> Yes <input type="radio"/> No	
Explain the reasons:	
<hr/> <hr/>	
Q. B-4: Do You Agree that CMWU works as Common Council for the Southern Municipalities in the Service Level as Service Provider Only.	
<input type="radio"/> Yes <input type="radio"/> No	
If No, state in points:	
<hr/> <hr/>	
Q. B-5: Do You Agree About the Recommended Types of PSP & PPP Contracts in the Different levels as Proposed in Table No.1. (Table: 5.2)	
<input type="radio"/> Yes <input type="radio"/> No	
If No, state in points:	
<hr/> <hr/>	

Appendix - B.2: Analysis Results & Discussion.

❖ Questioners and Discussion

The aim of this questioner is to present the viewpoints of the main stakeholders about the proposed ideas and related topics about legal and institutional framework of water and waste-water sector management. This questioner was filled by population sample from various competent agencies at the high level of management and decision making as listed below:

1. Water Resources and Planning Director – PWA.
2. Assistance Minister - EQA/MoEnA.
3. Acting Director General of Environmental Protection – EQA/MoEnA.
4. Director General of Soil & Water Directorate – MoA.
5. Associate Professor/Vice Dean – Faculty of Engineering - Environmental Department – Islamic University of Gaza (IUG).
6. Associate Professor – Faculty of Engineering - Environmental Department – Islamic University of Gaza (IUG).
7. CMWU General Manager.
8. CMWU General Manager Deputy.

The researcher faced difficulties during filling the questioner by some of the representatives due to the complexity of this topic and their low knowledge about different related issues.

➤ Analysis & Results

As mentioned above, four questioners were filled by three competent agencies, two were filled by the national academic universities, and two were not filled yet. The responding percentage to fill the questioner was only 75% of the total population sample. The following tables and figures show the analysis results for each question and its branches. Answers analysis was done using Microsoft Office Excel 2007 program.

Q. A-1: Are There Any Discrepancies In Stating Of Articles Between These Law:

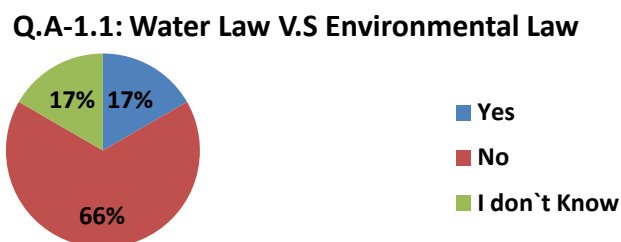


Figure B.2. 1: Answers Analysis Results of Q.A-1.1 (Water Law V.S Environmental Law).

As clear from **Figure (B.2.1)**, 17% of answers referred that there are discrepancies in stating articles of the two laws, in particular **Article (2)** of the environmental law without determine whether the dispute with a specific article/s in water law or with the law as a whole even without identifying the dispute/s. In the other hand, 66% of answers stated that there are no discrepancies in stating these articles. Some of answers justified that, these laws stated by the same government taking in account the jeopardizing issues between these laws. But, 17% of who filled the questioner have no knowledge (I don't know) if there are any discrepancies or not in stating articles of these two laws.

With regarding to Q.A-1.2 (Water Law V.S Agricultural Law) and Q.A1-3 (Water Law V.S Public Health Law), analysis results showed that 50% of answers stated that there are no discrepancies in stating articles of these laws, and the other 50% of who filled questioners have no knowledge (I don't know) if there are any discrepancies or not in stating articles of these two laws.

Q. A-2: Are There Interferences In Rules Based On Laws Between The Main Competent Agencies:

Answers for branch **Q.A-2.1 (PWA V.S EQA)** of this question divided equally for the three options as shown in **Figure (B.2-2)** below. With regarding to the option (Yes), 33.3% of answers stated that there are interferences between roles of PWA and EQA in three main points:

1. Monitoring of water resources.
2. Monitoring and protection of water environment (Seawater, Groundwater, Surface water).
3. Setting up drinking water quality standards.

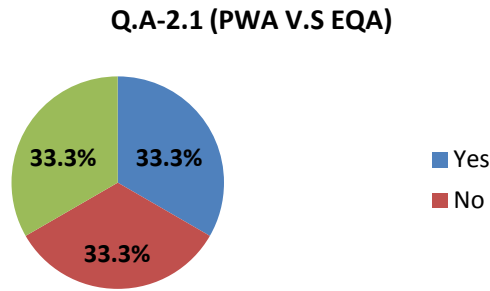


Figure B.2. 2: Answers Analysis Results of Q.A-2.1 (PWA V.S EQA).

With regarding to the branches **Q.A-2.2 (PWA V.S MoA) & Q.A-2.3 (PWA V.S MoH)** of the same question, analysis results showed that 17% of answers agreed that there are interferences between these agencies. As stated in answers, the interference between PWA V.S MoA in agricultural water sources management and between PWA V.S MoH in monitoring the water supply for the domestic water use. 50% of answers mentioned that there are no interferences between these agencies, and the other 33% of who filled questioners have no knowledge (I don't know) if there are interferences between these agencies or not. **Figure (B.2.3)** shows the analysis results of the two branches of the same question.

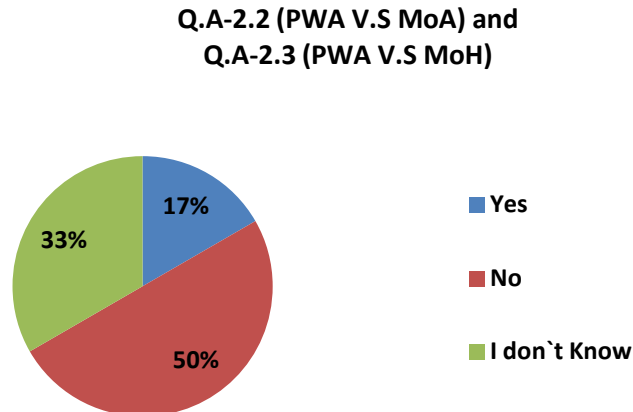


Figure B.2. 3: Answers Analysis Results of Q.A-2.2 (PWA V.S MoA) & Q.A-2.3 (PWA V.S MoH).

Q. A-3: Are There Any Practical Interference In Rules Between The Main Competent Agencies:

Answers analysis results showed that 50% of who filled the questioner agreed that there are practical interferences in rules between the main competent agencies in the following points as mentioned in answers of this question:

1. Monitoring of the groundwater quality (Note: agencies were not mentioned).
2. PWA & MoA: Monitoring and regulating the illegal agricultural wells.
3. The desire to increase powers by these agencies.
4. No willingness from these agencies for the mutual works and sharing information.

But, 17% of these answers stated that there are no practical interferences in rules between the main agencies, and the other 33% of who filled questioners have no knowledge (I don't know) if there are practical interferences in rules between these agencies or not. **Figure (B.2.4)** shows the analysis results of this question.

**Q. A-3: Practical Interferences In Rules Between
The Main Competent Agencies.**



Figure B.2. 4: Answers Analysis Results of Q.A-3.

**Q. B-1: Do You Agree To Divide The Framework To Four Level As Proposed In
Figure No.1 = Figure (4.1):**

Answers of this question divided equally for the two options with 50% of answers agreed about the proposed four levels of management framework illustrating that in the frame of decentralization and for better service providing and more comforting for service providers. But, the other 50% of who filled the questioners disagreed about this segregation for the following points:

1. The current three level do not working very well for better management of water sources. So, increasing the level will complicate the management process.
2. The third level (Operational & Supply) and the fourth level (Service) shall be combined together in one level.
3. The third level (Operational & Supply) shall be part of the fourth level (Service).

**Q. B-2: Does the Current Composition of the NWC stated in the Water Law is the
main problem for its malfunctioning.**

Answers of this question also divided equally for the two options with 50% of answers agreed that the current composition of the NWC is the main problem for its current

malfunctioning. And, the other 50% of who answered this question thought that the current composition of the NWS is not the main problem for its malfunction for the following reasons:

1. Although this composition or other structures of the NWC it doesn't work since it has no real functions in the water sector management.
2. No willingness and no importance from the political level regarding water issues.
3. Water scarcity is beyond the capabilities of the PNA and its relevant agencies.
4. The current political situation represented in the non-Sovereignty over the national resources and the Palestinian political and geographical division between Gaza Strip & West Bank.

Q. B-3: Do You Agree about the New structure of the NWC Proposed in Figure No.2 = Figure (4.3)

33% of answers of this question agreed about the new structure of the NWC proposed in **Figure (4.3)** and the other 67% of answers disagreed about the proposed structure because of the high number of members integrated in the decision making (the Board of Director) and the board shall be consist of PWA, EQA & MoA only.

Q. B-4: Do you Agree to Propose New Utility for Non-Conventional Water Sources.

33% of answers agreed about proposing a new one utility for managing of non-conventional water sources since the separate between types of water sources is very important and due to the specialty of the non-conventional water sources. The other 67% of answers disagreed about establishing one utility for all different types of non-conventional water sources (desalination, waste-water treatment & storm-water) illustrating that each type shall has a separate utility specialized in one type only.

Q. B-5: Do You Agree that CMWU works as CCS for the Southern Municipalities in the Service Level as Service Provider Only.

83% of answers agreed that CMWU works as CCS to provide services for less than 40% population in the southern governorates of Gaza Strip and shall be re-established as regional utility based on water law, and the other 17% of answers disagreed about this idea.

Q. B-6: Do You Agree About the Recommended Types of PSP & PPP Contracts in the Different levels as Proposed in Table No.1 = Table (5.2).

All the answers about this question agreed in general that the private sector shall share the responsibility with the public in the management of water sources. But, some of who

answered this question mentioned that they are not specialized in this issue but they agreed in general as mentioned above.

➤ Discussion and Comments

First of all during filling questioners by the representative/s of each agency, the researcher faced a lot of difficulties in identifying focal point for each agency and in contact with these persons especially for their continuous preoccupation. The other agencies were visited by the researcher but the researcher was not directed to the focal point of these agencies. And, as mentioned above, the responding percentage for filling the questioner was 75% only. And, answers in some questions were not cleared and often not related to the question. This cause miss-data and turbulence in data analysis and stating reasons for answers of questions.

In particular to **Q.A-1**, the existing background of the focal points about laws in general is not sufficient since all of who filled the questioner are considered a decision makers in their positions in these agencies even the academic representatives. And, since experts and the local universities are part of water sector management structure as stated in water law mainly and other laws in general, they shall have a good knowledge of these laws and the common points of discussions. The common justification by different persons was: knowledge about laws is the field of advocate or lawyer not the engineers or water resources manager. But my point of view is that, the layer or advocate can submit only articles on legal basis without taking in account the management purposes of these articles. In addition, these laws will be enforced by the employees of the main competent agencies of water sector management. So, at least the decision makers in these agencies shall have a high level of knowledge about these laws.

As showed in answers of **Q.A-2 & Q.A-3**, all answers stated actual current interferences in roles existing on the ground between PWA V.S EQA mainly in setting up the drinking water quality standards, PWA V.S MoA in managing and regulating the agricultural water sources mainly the illegal agricultural wells and PWA V.S MoH in monitoring water supply for domestics use. But the direct and indirect tasks of each agency were summarized in **Table (6.1)** based on articles of laws.

And about the proposed four levels of the management framework (**Q.B-1**), no definitive answer either the representatives agreed or not since the percentages for the two options are equal. The common disagreement between all of representatives is that the third level (Operational & Supply) shall be combined in one level with the fourth level (Service). But the purpose from this division is to apply the decentralization management and try to involve the highest number of agencies with a specific task instead of decreasing the number with many tasks for each agency. But in general, the multi-level regime was accepted theoretically and practically from all agencies.

Q.B-2 & Q.B-3 targeted the NWC composition either the current or the proposed. 50% of answers did not see that the current composition of the NWC is the main problem for its malfunctioning and they adverted to the political situation. But, the NWC was established before the current separation between Gaza Strip & West Bank and did not handle its tasks or have any practical clear powers on the ground. The proposed composition try to solve another main problem which is the head and the reference of the NWC (the head of the PNA) and the positions of the non-decision makers as the lord mayor of the capital (Jerusalem) and the members divided to two groups based on their roles stated in laws.

The proposed regional utility for the non-conventional water sources (**Q.B-4**) did not have the high percentage from agencies to agree about its establishment according to the reasons mentioned above. But, this utility will include three independent departments or directorate for each type of these sources as detailed in the department of the utility.

CMWU is one of the service providers in Gaza Strip as ensured by the answers of these agencies. But, the high percentage of answers did not separate between the CCS and the regional utility and the references to establish each type of these bodies.

In general, it was highly recommended by the representatives to share the management responsibility of water sector with the private sector. But due to the low background about types and shapes of the private sector sharing, most of answers have no comments about the proposed types of either PSP or PPP.